Ultra-Early Machine Failure Sign & QA
AE Logging System

Early Observer Pegasus / Pegasus Plus
Early Observer MEL-E Freddo / Freddo Plus

AE SYSTEM SUPPORT TOOL
for Pegasus_Freddo

User's Manual

JCC Co., Ltd.

History

Software

Version No.	Revision Date	Description
Ver. 1.1.3	21, Nov., 2025	1st edition
Ver. 1.1.4	10, Jul., 2026	Bug fixes Disabled generation of unnecessary summaries Improved software operation and USB connection stability

User's Manual

Document No.	Revision Date	Description
FNF 0040 830	21, Nov., 2025	1st edition Japanese document FNF 0040 815
FNF 0040 831	23, Mar., 2026	P6,8 Corrected typos P3,4,10,24 Corrected typos and addition
FNF 0040 832	17, Aug., 2026	P2,7,19,20 Corrected typos
FNF 0040 833	11, Sep., 2026	P13, 14, 16, 20 Touch sensor setting fix

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1. SUMMARY

This User's Manual describes the method to use the AE SYSTEM SUPPORT TOOL software for Pegasus_Freddo (hereinafter, "Pegasus/Freddo").

Please note that the described specifications or functions may be changed without notice for technological improvement.

2. TRADEMARKS

- Microsoft Windows is a registered trademark of Microsoft Corporation in the United States and/or other countries.
- Microsoft and Excel are registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Other product names and company names shown in this document are registered trademarks or trademarks of each company.

3. ABOUT "AE SYSTEM SUPPORT TOOL for Pegasus_Freddo"

AE SYSTEM SUPPORT TOOL for Pegasus_Freddo (hereinafter, "AE TOOL") converts signals that have undergone advanced analysis processing in real-time by Pegasus/Freddo into data that can be analyzed and evaluated for easy visualization.

With the AE TOOL, the phenomenon generated by acoustic emission (hereinafter, "AE") can be caught quickly without any one being missed.

The AE TOOL can display two types of graphs at the same time out of the following four types of measurement data.

• Amplitude-MAX	[mV]	: Maximum amplitude value
• Energy	[dBs]	: Energy value (integrated value of Amplitude-MAX)
• RMS	[mV]	: Effective value
• Counts	[pieces]	: 0 V or number of intersection points of set threshold value

[Cautions on AE measurement by PC]

-If the AE measurement is performed by connecting the USB port of PC, the Ethernet communication between Pegasus / Freddo and the higher-level system will be blocked. To restart the Ethernet communication between Pegasus / Freddo and the higher-level system, turn off and on the power supply of Pegasus / Freddo.

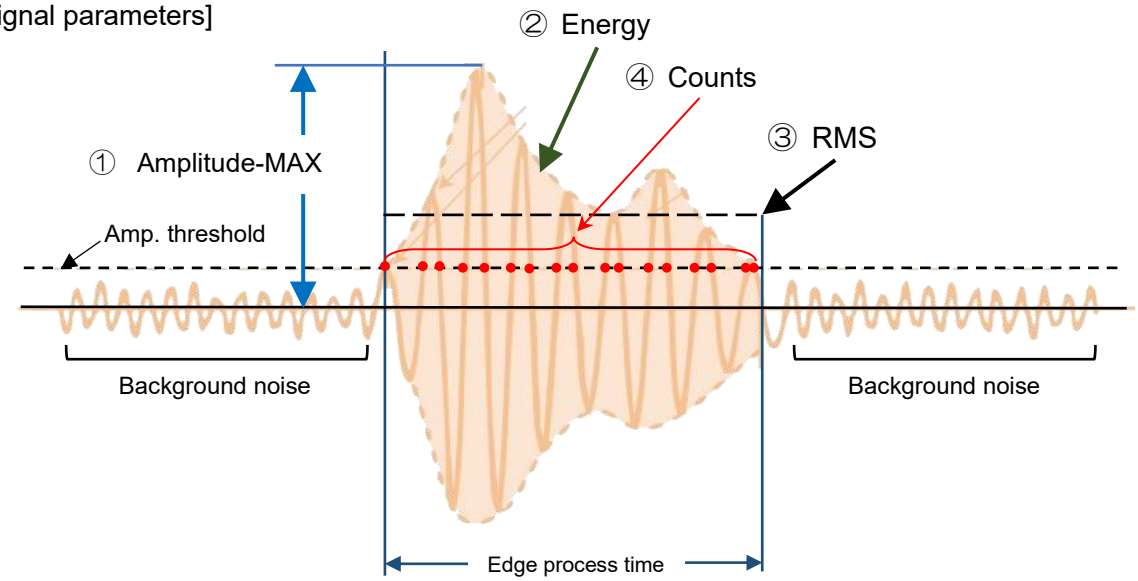
-AE measurement on a PC depends on the performance of the PC. AE measurement on a PC should be done within 1 hour. If AE measurement will take more than 1 hour, please use a upper system or Pegasus Plus / Freddo Plus ada a controller only.

- If the transmission interval is set to 1 ms for AE measurement, please measure using an Ethernet connection.

4. AE MEASUREMENT FUNCTION

The AE signal is converted into four parameters and measured.

[AE signal parameters]



① Amplitude-MAX = Max. amplitude value: Value of AE waveform within “edge process time”

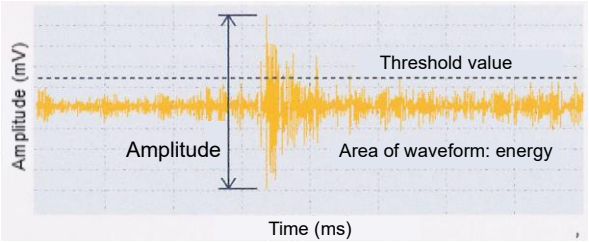
② Energy = Energy value: Integrated value of AE waveform within “edge process time”

③ RMS = Effective value: Value of AE signal acquired for each unit of “edge process time”

④ Counts = Count value: No. of intersections with 0 V or Amp. threshold within "edge process time”

[AE waveform and measurement points]

Sudden type



Source of occurrence: Crack growth, material transformation, etc.

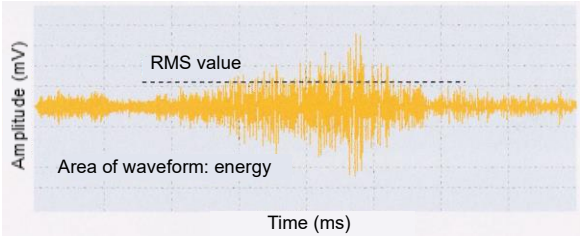
Waveform shape: Steep rise

RMS (effective value): Correlation with crack growth distance

Energy: Correlation with crack growth distance

Frequency: Different characteristics for each object/material

Continuous type



Source of occurrence: Friction, wear, etc.

Waveform shape: Continuous signal

RMS (effective value): Correlation with frictional force and coefficient of friction

Energy: Correlation with friction volume

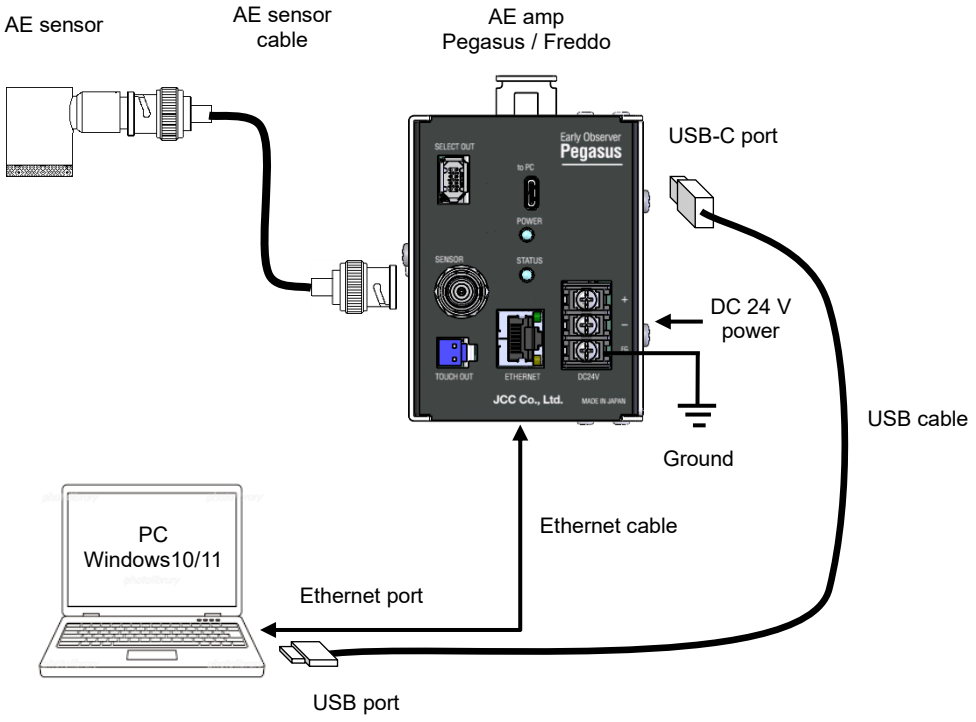
Frequency: Different characteristics for each object/material

5. SYSTEM REQUIREMENTS

The system with the following requirements is required to use the AE TOOL. (Recommended system)

- CPU:Intel CORE i5 or higher (8th generation CPU or later recommended)
- MEMORY:8 GB or higher
- Hard disk: 10 GB of empty space or more
  Note: Approx. 4 MB of space is needed to save 10 minutes of measurement data.
- 1 USB port or Ethernet port
  * If the transmission interval is set to 1 ms for AE measurement, please measure using an Ethernet connection.
- Microsoft Windows 10 / 11 (64-bit) or later
- The driver software for virtual COM ports must be installable.
  Driver software (as of April 2025)
  Download site (Future Technology Devices International Limited(FTDI))
  https://ftdichip.com/wp-content/uploads/2025/03/CDM2123620_Setup.zip

6. CONNECTING WITH EARLY OBSERVER Pegasus/Freddo



Connect each device to the Pegasus /Freddo as shown in the image above.

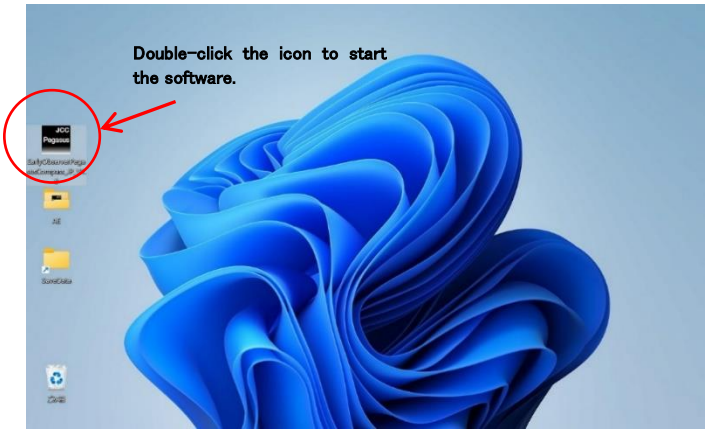
Turn off the power to the Pegasus/Freddo before connecting with the PC.

- Connect the PC and the Pegasus/Freddo using the PC connection cable.
- Connect the AE sensor with the SENSOR connector.
- Connect the power to the power terminal.
- Turn off all CONFIG switches.

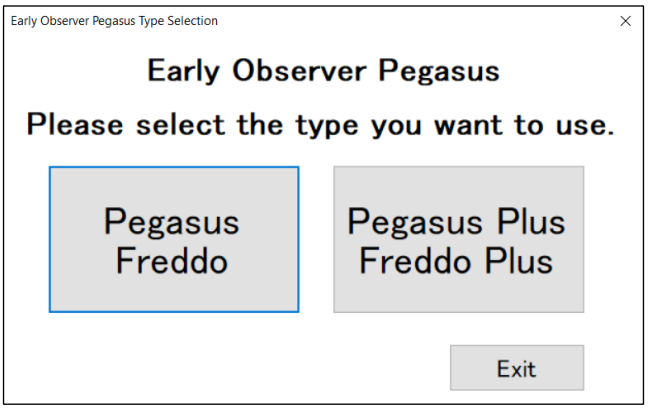
7. AE measurement procedure

This section explains how to set up AE measurement using the PC.

1. Double-click “AE SYSTEM SUPPORT TOOL for Pegasus_Freddo” to start the software.



2. Select the Early Observer type that you are going to use.



[Note]

Depending on the PC you are using, a virus warning may appear at the start.

In such a case, run “Windows Update” on the PC to update Windows to the latest state.

■A USB driver is required to connect Pegasus/Freddo to a PC via USB.

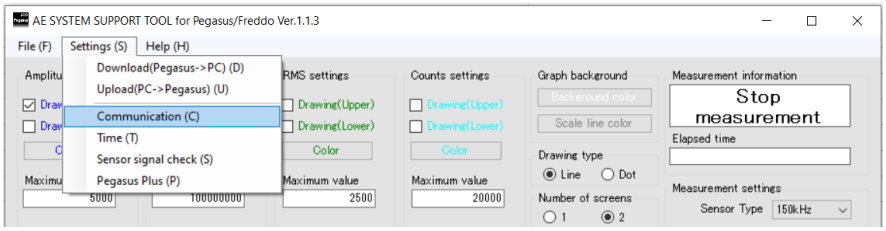
When connecting Pegasus/Freddo via USB for the first time, connect Pegasus/Freddo to your PC with a USB cable in an environment where you can perform Windows Update via the Internet. The USB driver for "Pegasus/Freddo" will be automatically installed on your PC.

*If the USB driver does not install, download the driver from the website below and install it.

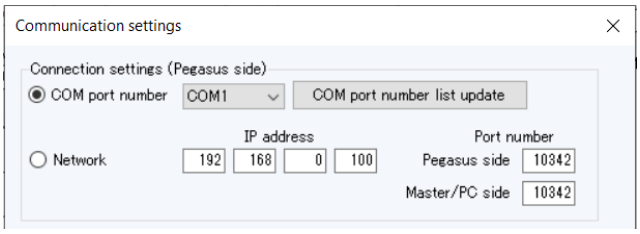
https://ftdichip.com/drivers/vcp-drivers/

*Installation of the USB driver is required only when connecting Pegasus/Freddo via USB for the first time.
There is no need to install the USB driver from the second time onwards.

3. After starting the AE TOOL, click the [Settings(S)] .
   Select the [Communication(C)]



4. Select the communication environment between Pegasus/Freddo and PC.
   Select the communication environment on the [Connection settings (Pegasus side)] screen.

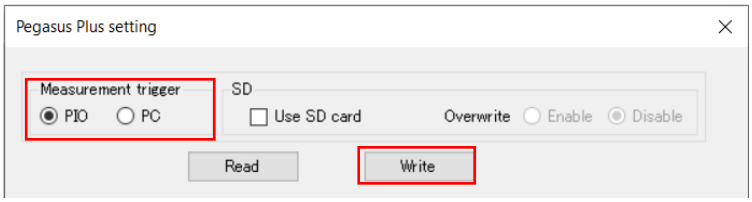


◎ COM port : Communicate with Pegasus/Freddo via a USB cable.
* If the USB cable is connected after starting the AE TOOL, click the [COM port number list update] button before selecting a COM port number.

◎ Network : Communicate with Pegasus/Freddo via Ethernet (LAN) cable.
* For details on network communications, see "11. Settings for Connecting to a PC via Ethernet" .

Click [Close(C)] to close the window.

5. For Pegasus/Freddo Plus, also set "Pegasus Plus(P)" from the "Settings(S)" tab.

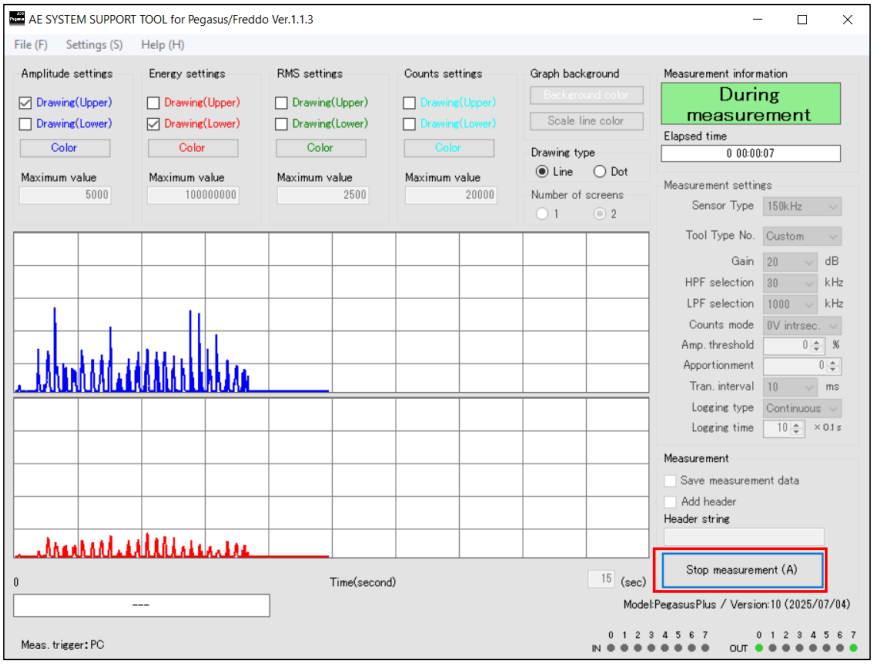


Select "PC" for "Measurement trigger".

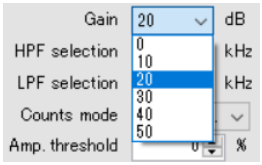
Click "Write" to save the settings to Pegasus Plus.

Click [Close(C)] to close the window.

6. Click “Start measurement(A)” to begin AE measurement.
   To save measurement data, check “☑Save measurement data”.



- The magnitude of the AE measurement value is adjusted using the “gain value”.
  If the measured value is low, increase the gain value.
  When the measurement value reaches the top of the graph scale, decrease the "gain value."
  * Select a gain value between 10 and 50.

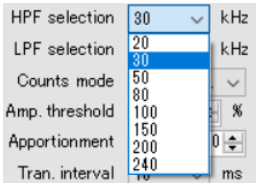


Gain/HPF/LPF setting tips

- When comparing two subjects in different conditions, measure the subject that is thought to be in worse condition first.

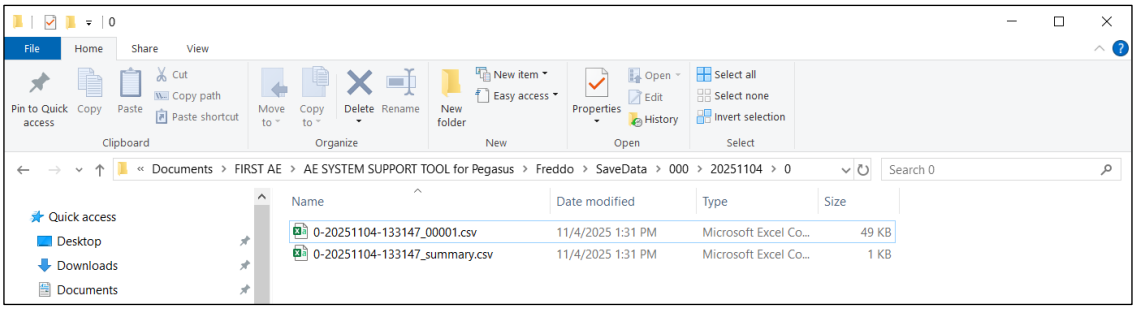
- Adjust the gain value so that the peak amplitude does not exceed 5,000.

- Set "HPF Selection" and "LPF Selection" according to the sensor type.



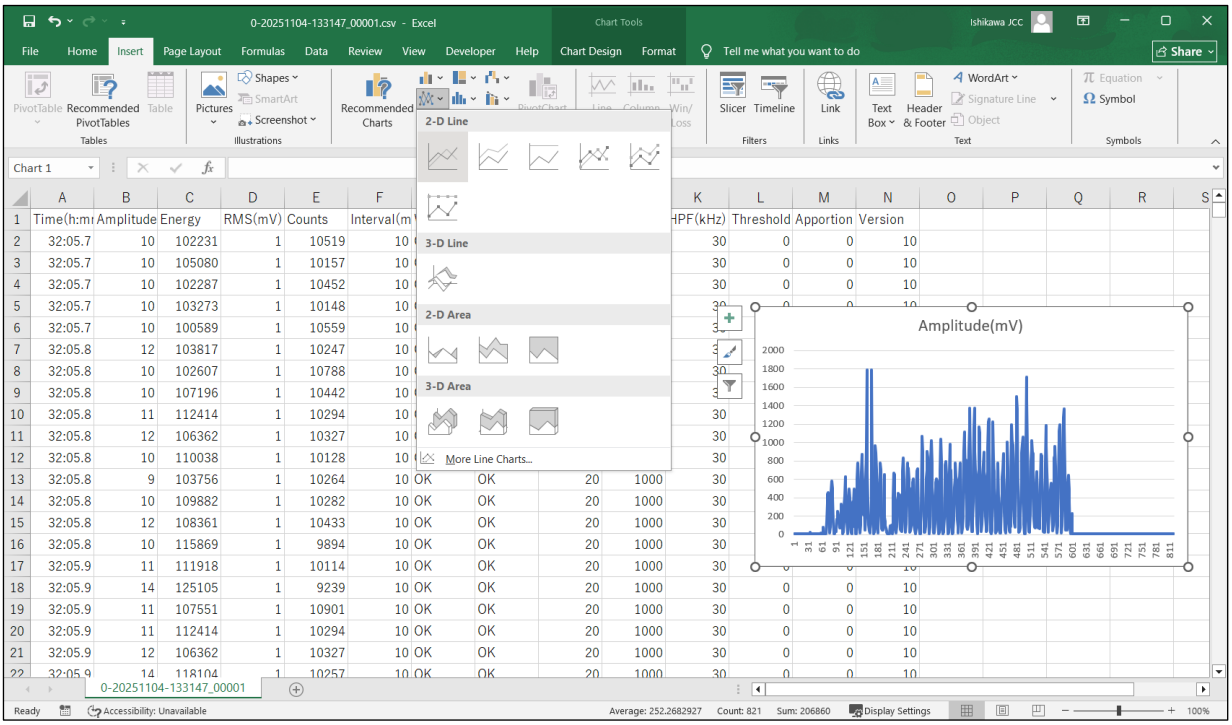
FAEN-60(W)I	HPF : 30	LPF : 100	: for copper/aluminum
FAEN-S150(W)I	HPF : 100	LPF : 200	: for iron/stainless
FAEN-S300(W)I	HPF : 200	LPF : 400	: for ceramic

7. Check the saved AE measurement data.



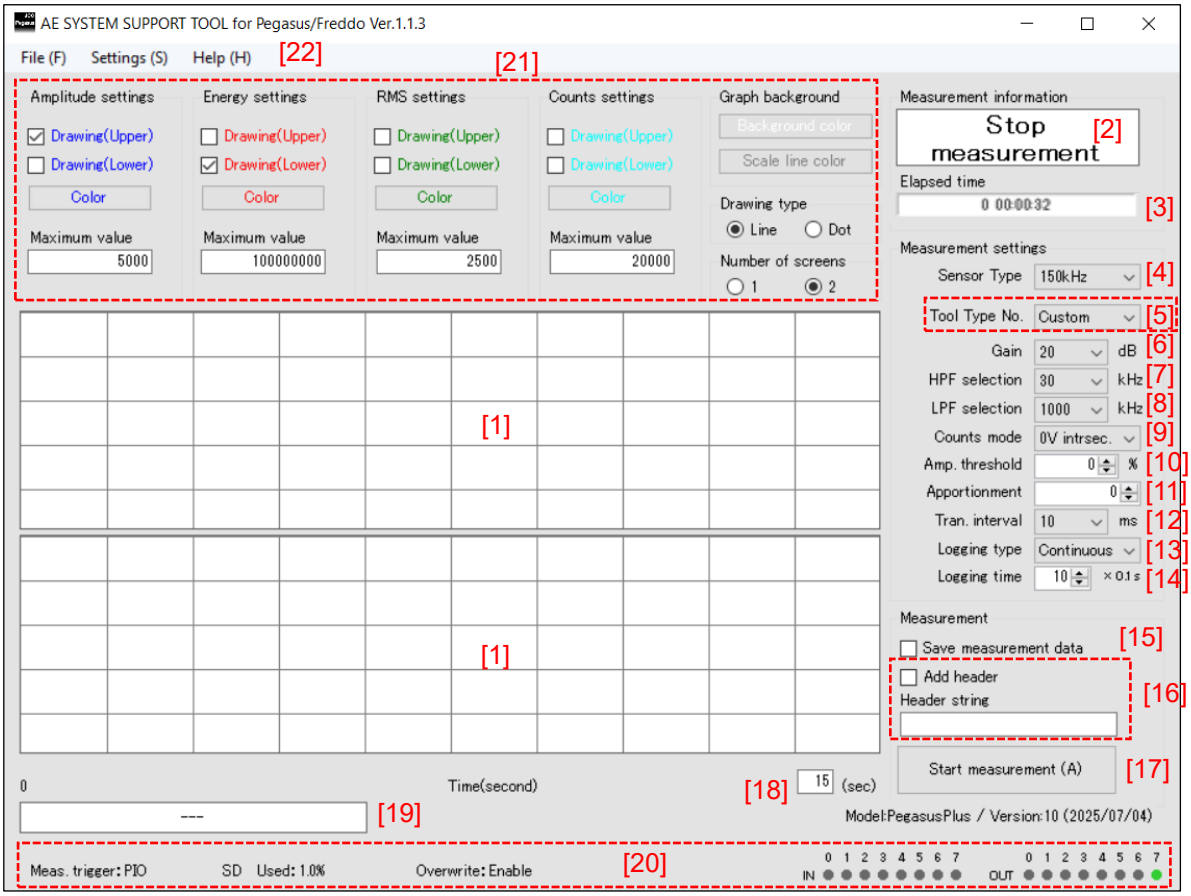
AE measurement data is saved in CSV format in the following location on your PC.
(Initial setup)
Documents\FIRST AE\AE SYSTEM SUPPORT TOOL for Pegasus_Freddo\SaveData

- AE measurement data can be graphed using Excel or similar software.



8. OPERATING AE TOOL

8-1. Main Screen

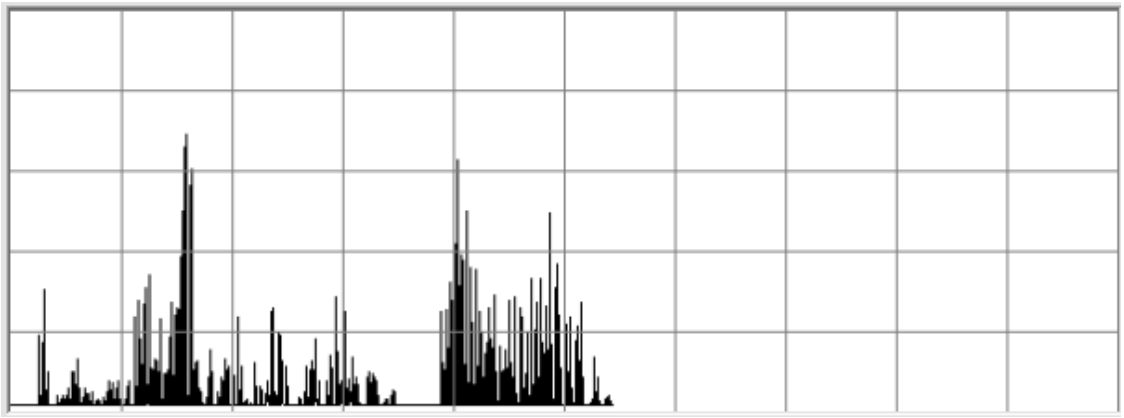


[1] Graph drawing
[2] Status display
[3] Elapsed time display
[4] Sensor type
[5] Tool type number *Only for Plus
[6] Gain value selection
[7] HPF selection
[8] LPF selection
[9] Counts mode selection
[10] Amplitude threshold value
[11] Apportioned value
[12] Transmission interval
[13] Logging type display
[14] Logging timer display
[15] Save measurement data (Selection)
[16] Append header settings
[17] Measurement start/stop
[18] Graph measurement time scale settings
[19] Alert (Error) Display
[20] Measurement Trigger / SD / PIO monitor *Only for Plus
[21] Graph drowing settings
[22] Menu bar

8-1-1. Graph Drawing

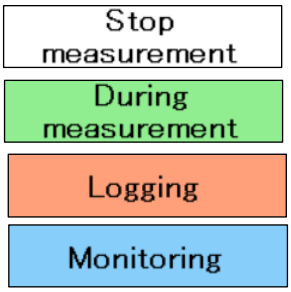
This draws graphs of the measurement data selected on the settings screen.

The items to be displayed and the maximum values for both the top and bottom graphs can be selected in [Settings].



8-1-2. Measurement Status Display

This displays the current status of the AE TOOL.



AE measurement not performed

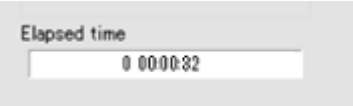
AE measurement in progress

Logging data in progress

Monitoring in progress

8-1-3. Elapsed Time Display

This displays the elapsed time since the start of the measurement.

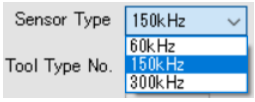


Displayed in the format of “Day Hour : Minute : Second” from the left

8-1-4. Sensor type

Select the sensor type (frequency) used for AE measurement.

Determines whether the HPF/LPF values are appropriate for the selected sensor type.



[Proper]



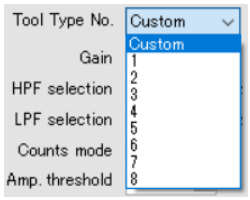
[Improper]



8-1-5. Tool Type Number *Only for Plus

Select the "Sensor type" when measuring AE from a PC (Meas. trigger: PC).
When “Meas. trigger: PIO”, the selected tool type number is displayed on the monitor.

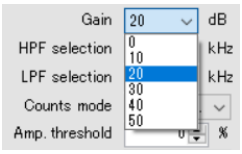
Custom: Select the setting value on the main screen.
1 to 8: Reads the set values for tool type number 1 to 8.



8-1-6. Gain Value Selection

This is used to select the gain value.

[Note]
Select a gain value between 10 and 50.
Do not select "0dB" as this will not allow accurate measurements.



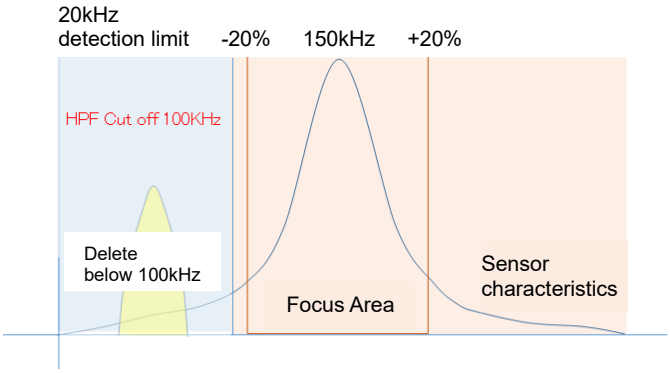
8-1-7. HPF / LPF Value Selection

Frequency components (vibration, ultrasonic waves, etc.) that are unnecessary for AE measurement can be deleted.

HPF : 20, 30, 50, 80, 100, 150, 180, 200, 240 [kHz]
LPF : 80, 100, 180, 00、360、400、600、1000 [kHz]

■ Image of HPF

HPF: High Pass Filter
LPF: Low Pass Filter

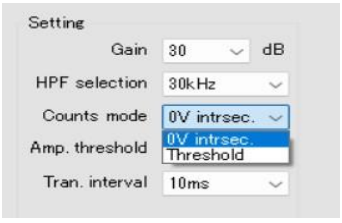


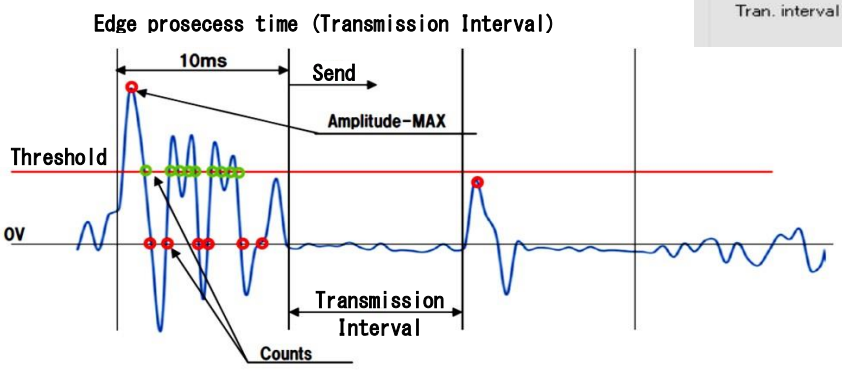
Set according to the sensor type.

FAEN-60(W)I	HPF : 30	LPF : 100	: for copper/aluminum
FAEN-S150(W)I	HPF : 100	LPF : 200	: for iron/stainless
FAEN-S300(W)I	HPF : 200	LPF : 400	: for ceramic

8-1-8. Counts Mode Selection

This selects the measurement level for the counts.
The measurement level and the number of intersections selected here are output as “Counts.”





8-1-9. Amplitude Threshold Value Settings

This sets the threshold value when [Threshold value] is selected in Counts mode.

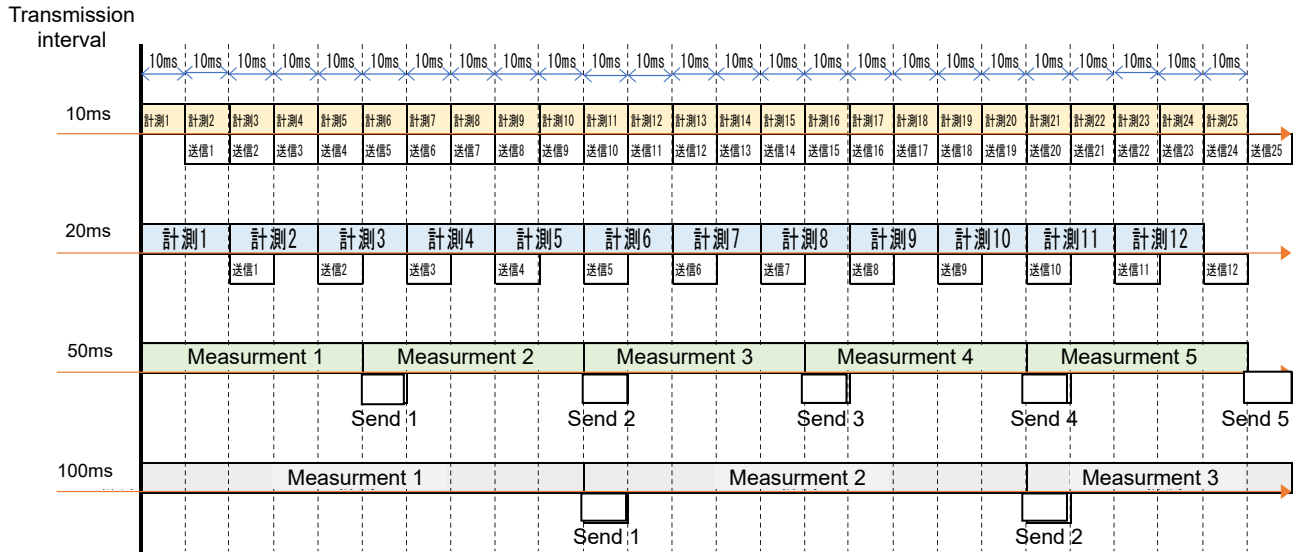
The threshold value should be set from 0% to 99% based on the amplitude voltage range (0 to 5,000 mV).

8-1-10. Transmission Interval Selection

Select the transmission interval from 10ms, 20ms, 50ms, 100ms, 1000ms and 2000ms.

* If the transmission interval is set to 1 ms for AE measurement, please measure using an Ethernet connection.

[Image of transmission interval]



8-1-11. Apportioned Value Settings

If a large value is selected as the transmission interval, the energy value may become large.

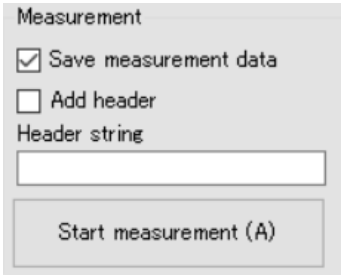
In such a case, setting an apportioned value outputs the energy value after apportion measurement.

Energy Value = Energy ÷ Factor of 10 of the apportioned value

Example: Energy value when the energy is 80,162,573,654 with apportioned value

Apportioned value	Energy value
0	80,162,573,654
1	8,016,257,365
2	801,625,737
3	80,162,574
4	8,016,257
5	801,626
6	80,162
7	8,016
8	802
9	80

8-1-12. Measurement Start/Stop



This is used to start or stop the AE measurement.

- Click "Start measurement (A)" to start AE measurement.

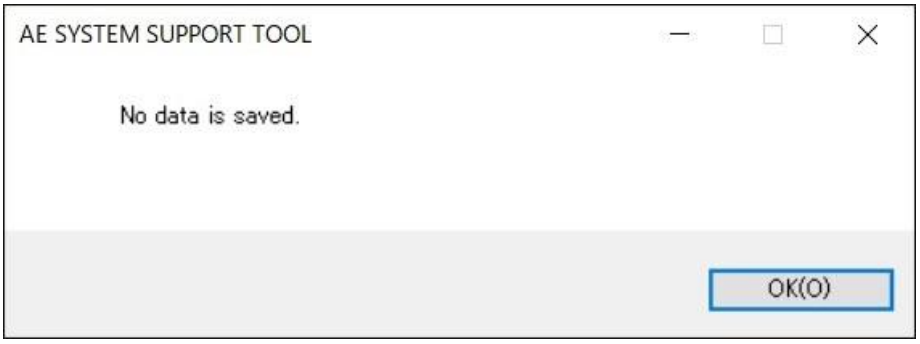


- Click "Stop measurement (A)" to stop the AE measurement.

- If you check the [☑Append header] checkbox, a header string will be added to the saved file name.

- Check "☑Save measurement data" and then click "Start measurement (A)". Logging will begin 500 ms after the start of AE measurement, and the AE measurement data will be saved to a file.
  (For details on the saved data, refer to “8. Saved Measurement Data File.”)
  If [Start Measurement (A)] is clicked without selecting the checkbox, a message indicating that the data will not be saved appears.

  * You cannot enable “Save measurement data” while AE measurement is in progress.



8-1-12. Menu Bar

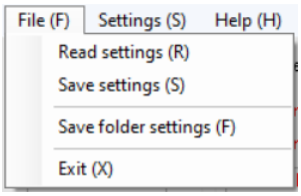
This is used to close the AE TOOL and perform other various settings.

This cannot be used while AE measurement is in progress.



- File (F)

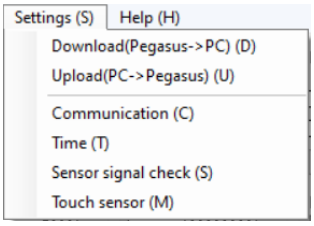
Save settings(R)	: Read the settings on the setting screen.
Read settings(S)	: Save the settings on the settings screen.
Folder selection(F)	: Select the folder to save the initial file.
Exit (X)	: Exit the AE TOOL.



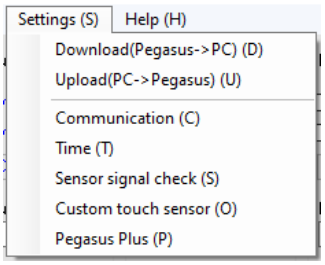
- Settings (S)

The settings screen appears. Details will be described later.

[Pegasus / Freddo]

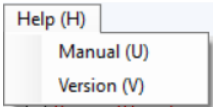


[Pegasus / Freddo Plus]



- Help (H)

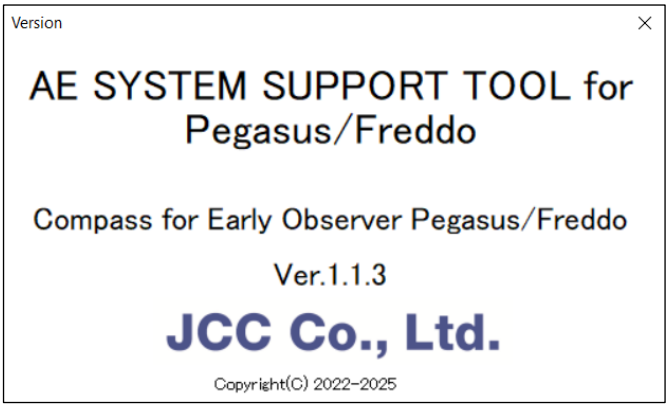
This displays the User's Manual (this document) or the version screen.



A separate software to view pdf* files needs to be installed on the PC in order to view the User's Manual.

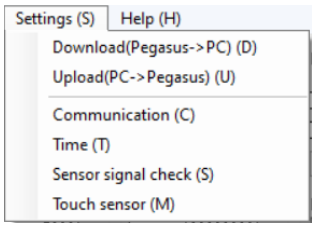
* pdf: Portable Document Format

[Version screen]

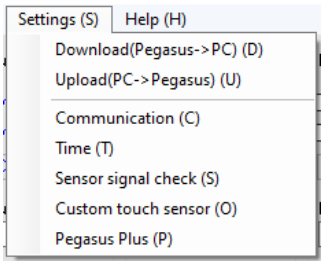


8-2. Settings Screen

[Pegasus/Freddo]

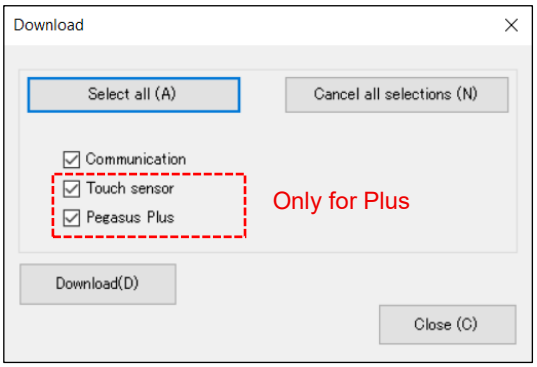


[Pegasus/Freddo Plus]

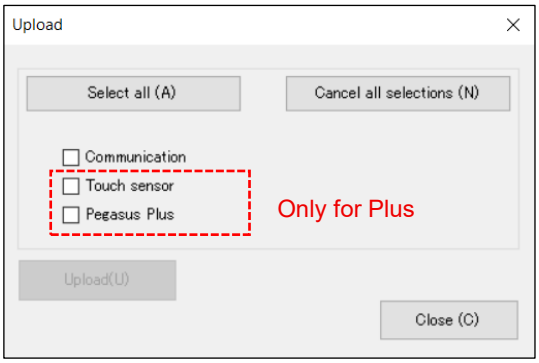


8-2-1. Download / Upload

- Download(D): Download the configured settings from Pegasus/Freddo to PC.
  1. Select the items to download and click "Download(D)".
  2. When "Download complete" appears, click "Close(C)".



- Upload(U): Upload the configured settings from PC to Pegasus/Freddo.
  1. Select the items to upload and click "Upload(U)".
  2. When “Upload complete” appears, click “Close (C)”.



Download/Upload Tips

- The settings made in the AE tool are recorded on the Pegasus/Freddo unit.
- After launching AE Tool, first download it and record the settings of the Pegasus/Freed unit to your PC.
- If you upload immediately after starting AE Tool, the settings saved on your PC will be written to Pegasus/Freddo.

8-2-2. Connection Settings

This sets the communication environment to communicate with Pegasus/Freddo.

- Commmunication settings (Pegasus side)

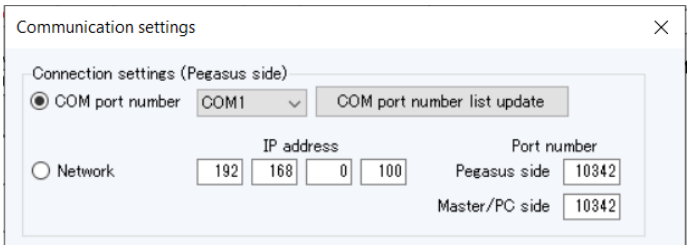
COM port: When connecting via the USB cable, select “COM port.”

The COM port that can be connected to the PC is automatically selected.

Note: Use the USB cable for data communication.

* If the USB cable is connected after starting the AE tool, click the [COM port number list update] button before selecting a COM port number.

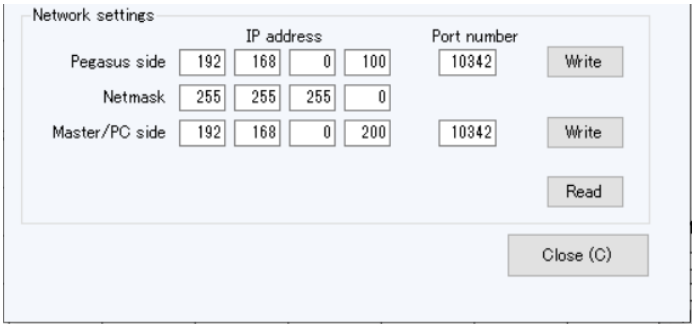
Network: When connecting via the LAN (Ethernet) cable, select “Network”



- Network settings

This sets the IP address of the target for Pegasus/Freddo to connect to (host controller or PC).

The following shows the initial values.

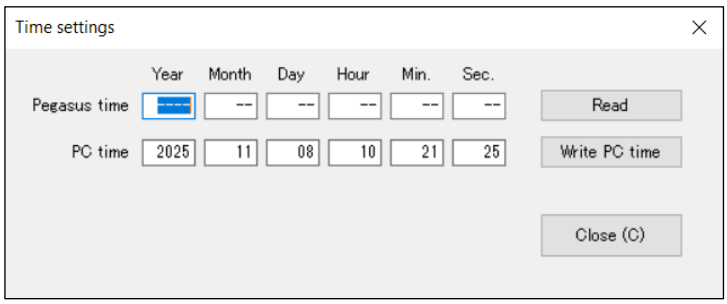


Write: Set the settings to Pegasus/Freddo.

Read: Read Pegasus/Freddo settings.

8-2-3. Time settings

Set the time on Pegasus / Freddo.



Read: Read the time from Pegasus/Freddo.

Write PC time: Write the PC clock time to Pegasus/Freddo.

8-2-4. Sensor Signal Check

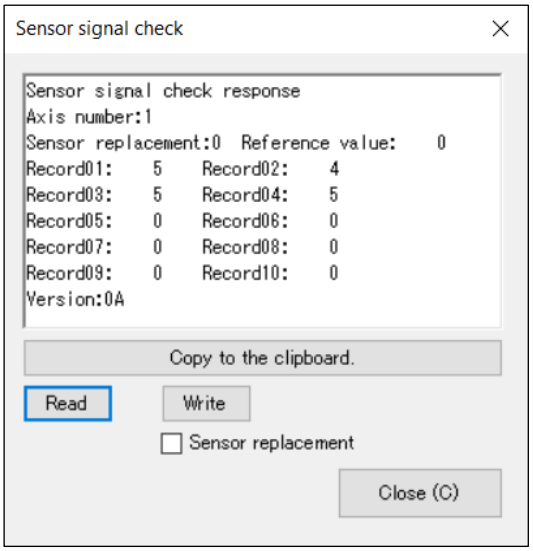
This checks the sensor signals.

- Reading

Displays the reference value and the last 10 measured values of the AE sensor signal.

The AE sensor signal is not measured or written.

[Sensor signal check execution example]



* Record01 shows the latest data.

Tips

- When an abnormality occurs in the sensor characteristics that affects the results of AE measurement, the sensor signal changes by more than two times.
- Monitor reliability visually or by connecting to a host controller.

- Writing

Measure the AE sensor signal and record it in “Record01.” The standard value and the past ten measurement values of the AE sensor signal are also displayed.

If the “Sensor replacement” checkbox is selected, the measurement value is written to the standard value.

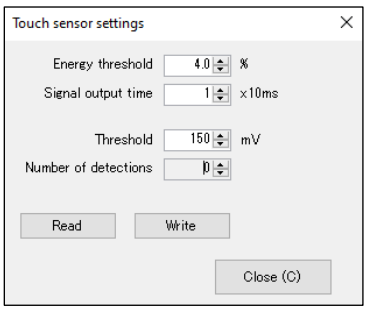
8-2-5. Touch sensor / Custum touch sensor Settings

Set the touch sensor output.

There are two modes for touch sensor detection:

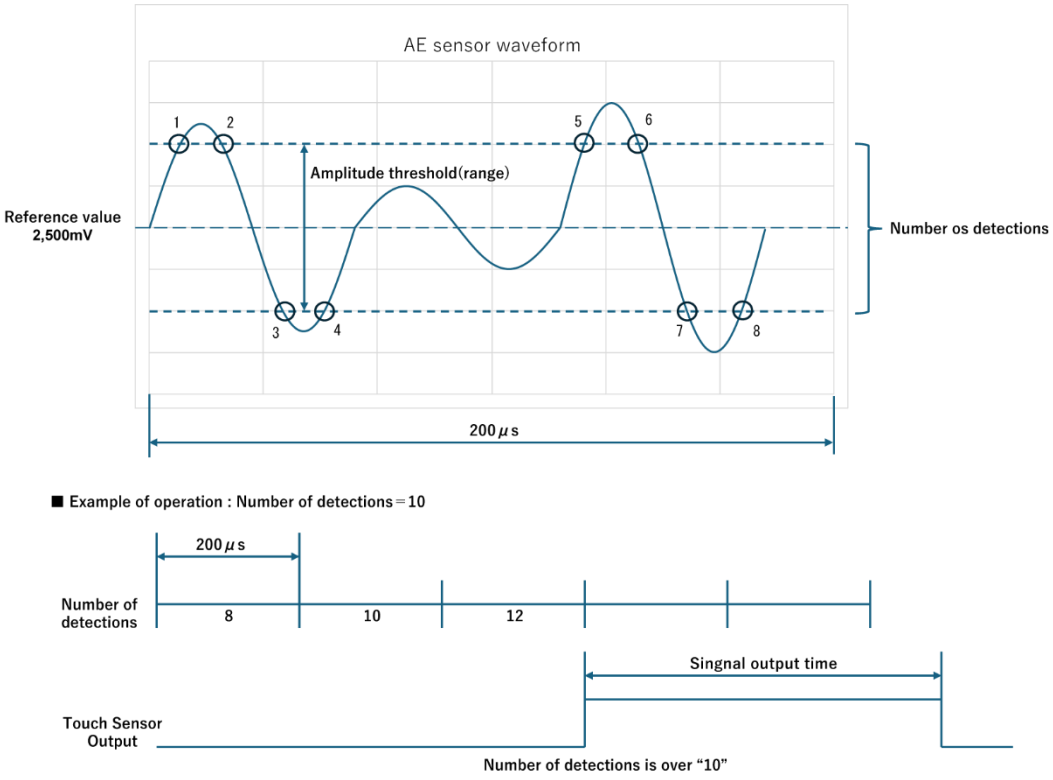
"Amplitude Count Mode" and "Energy Value Monitoring Mode."

Select and configure one of these modes.



1) Amplitude count mode

The touch sensor outputs a signal when the number of detected touch occurrences (count value) within the amplitude threshold range during a 200 µs period exceeds the amplitude detection count value.



[Amplitude Threshold]

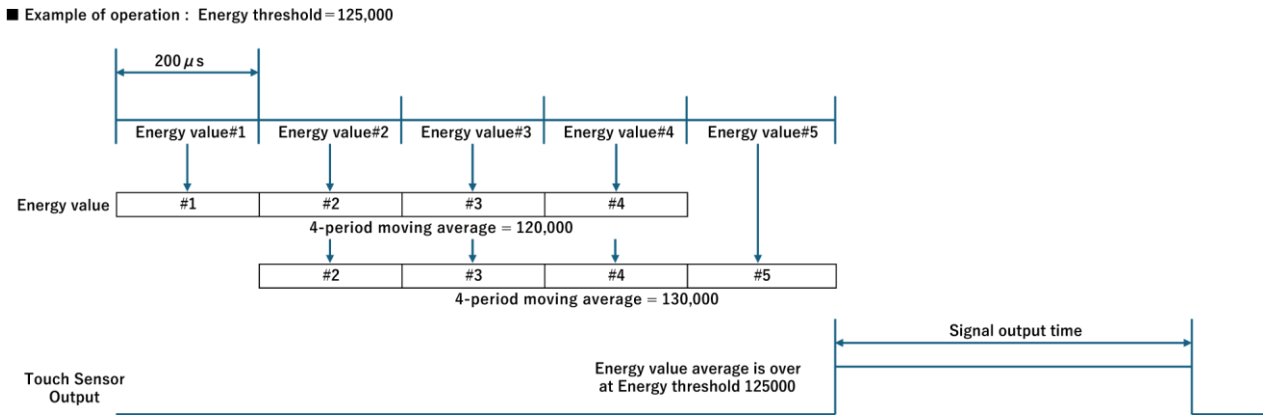
Set the range (width in the positive and negative directions) for counting amplitude detections.
Setting range: 0 to 5,000 mV (0 to 8191)
Default value: 150 mV (246)
Setting example:
Amplitude threshold setting: 150 mV (246)
Reference value: 2,500 mV (8192)
Negative direction: 2,500 mV (8192) – 75 mV (246) = 2,575 mV
Positive direction: 2,500 mV (8192) + 75 mV (246) = 2,425 mV

[Number of detection]

This threshold is used to monitor the number of touches (count value) occurring within the specified amplitude threshold range.
Setting range: 0 to 1000
Default value: 0
・If set to 0, the function is disabled (inactive).

2) Energy value monitoring mode

The touch sensor outputs a signal when the average of four energy values, acquired at 200 μs intervals, exceeds 256 times the energy threshold.



[Energy Threshold]

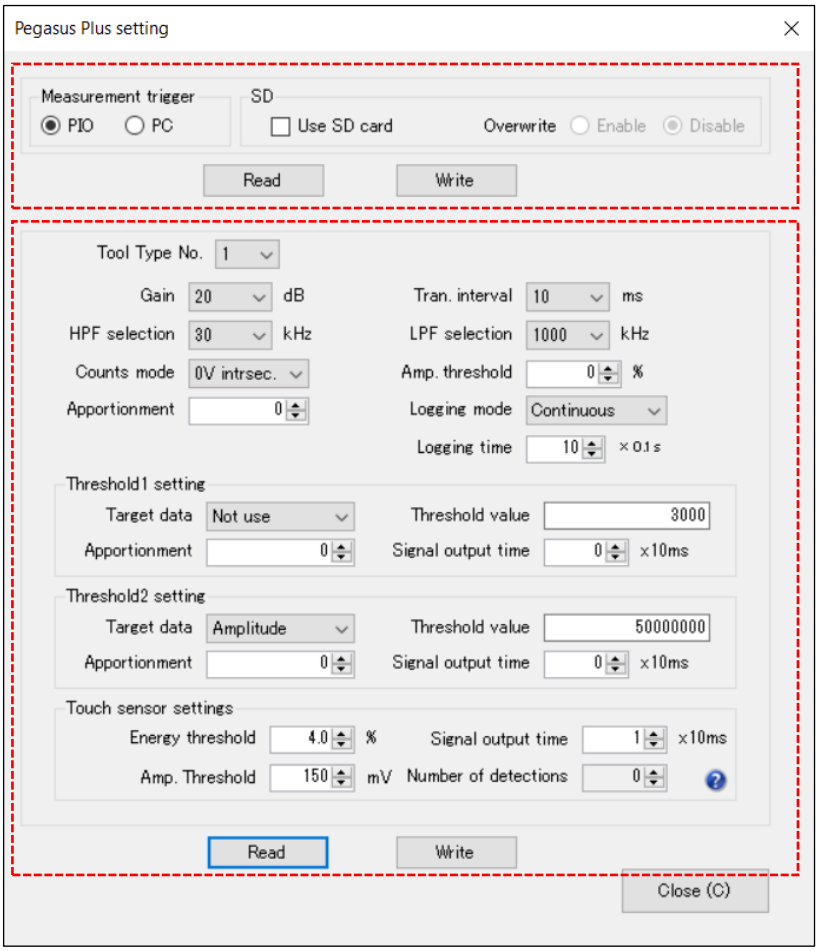
This is the threshold for monitoring the touch Energy value.
Setting range: 0–100% (0–12,800)
Default value: 4% (512)
Value used for determination at the 4% setting: 512 × 256 = 131,072
・If set to 0%, the function is disabled (inactive).

[Signal Output Time]

Sets the ON time for the “touch sensor output.”
The setting value is in 10 ms increments (1 to 65,535 × 10 ms).

8-2-6. Pegasus Plus Settings

Configure settings specific to Pegasus/Freddo Plus.



Pegasus Plus setting 1

Pegasus Plus setting 2

(1) Pegasus Plus Setting 1

- Measurement trigger

PIO: AE measurement is performed using the input signal from Pegasus/Freddo Plus.

Logging data is saved to the microSD card.

PC: AE measurements are performed from a PC connected to Pegasus/Freddo Plus (USB or LAN connection).

Logging data is saved in the PC's memory.

- SD

When using a microSD card, check the “☑Use SD card” .

Overwrite Enable: When the remaining capacity on the microSD card is less than 20%, it will overwrite older data.

Disable: When the remaining capacity of the microSD card falls below 10%, an error occurs and saving is not possible.

"Read": Reads settings from Pegasus/Freddo Plus.

"Wright": Writes the settings to Pegasus/Freddo Plus.

(2) Pegasus Plus Setting 2

- Tool Type No

You can select from 8 types of tool type numbers 1 to 8.

The following settings can be changed for each tool to perform AE measurement.

- AE measurement settings

Set the AE measurement settings.

Gain : Set the gain value.

HPF selection : Select the HPF (High pass Filter) value.

LPF selection : Select the LPF (Low pass Filter) value.

Counts mode : Select the measurement level for the "count value" (0V crossing point/threshold value).

Amp. Threshold : Sets the threshold when "Threshold" is selected in Counts mode.

Apportionment : Set the apportionment value (0 to 9) of the “Energy value”.

Logging mode : Select the logging type (continuous/timer).

Logging time : Set the timer value when "Timer" is selected in "Logging mode" (0 to 200 x 0.1 s).

- Threshold alarm 1 setting

Target data : Select the target data to be used for "Threshold alarm 1 setting".

Threshold value : Sets the value that turns on the “Threshold alarm 1 setting”.

Apportionment : Set this to apply the apportionment value to the "Threshold value" (0 to 9).

Signal output time: Sets the on time of "Threshold alarm 1 setting" (0 to 65535 x 10 ms). A setting of "0" keeps it on, and "Threshold alarm reset" turns it off.

- Threshold alarm 2 setting

Target data : Select the target data to be used for "Threshold alarm 2 setting".

Threshold value : Sets the value that turns on the “Threshold alarm 2 setting.”

Apportionment : Set this to apply the apportionment value to the "Threshold value" (0 to 9).

Signal output time: Sets the on time of "Threshold alarm 2 setting" (0 to 65535 x 10 ms). A setting of "0" keeps it on, and "Threshold alarm reset" turns it off.

- Touch sensor settings

Set the touch sensor output.

* Please refer to "8-2-5. Touch Sensor / Custom Touch Sensor Settings" for the setting details.

9. SAVING AE MEASUREMENT DATA FILES

When measuring AE under the following conditions, the data is saved as a “CSV format” file.

- If you select the “☑Save measurement data” on the AE TOOL screen of PC.
- If the “AE measurement” and “logging” input signals are turned on from the PIO of Pegasus Plus.

The saved file can be analyzed and graphed using Excel or other applications.

9-1. File Save Location

■ AE measurement on PCThe file is saved in the folder specified under “Folder selection(F)” in the “File(F)” menu.

The initial value is set for the following folder.

<Documents>\FIRST AE\AE SYSTEM SUPPORT TOOL for Pegasus_Freddo\SaveData

- Data measured with the Ethernet cable connected is saved in the “100” folder.
- Data measured with the Ethernet cable connected is saved in the “100” folder.

In addition, a folder for each measurement date is created in the “000” or “100” folder, and a sub-folder is created for each "Tool type number".

Example: "Tool type number 1" folder for measurement date of May 16, 2025 (via USB cable)

<Specified folder>\000\20250516\0\

■ AE measurement from the PIO of Pegasus/Freddo Plus

The file is saved in the “100” folder of microSD.

In addition, a folder for each measurement date is created in the “000” or “100” folder, and a sub-folder is created for each "Tool type number".

9-2. Logging data

Each time a logging, "logging data" and "summary data"are saved in CSV file format.

*If performing continuous AE measurements, a new logging data file is created every 12,000 row.

■ Measurement time with 12,000 rows of data

Transmission interval	Measurement time
10ms	2min.
20ms	4min.
50ms	6min.
100ms	20min.

1. Logging Data File

File name: Tool type number-Measurement date-Measurement time-Serial number of the file.

Example: 1-20250425-114953_00001.csv

Column	Item	Description
A	Time(h:mm:ss.000)	Time (h:mm:ss.000) *To show milliseconds on Excel, set the display format to “h:mm:ss.000” in the user definition.
B	Amplitude(mV)	Maximum amplitude value
C	Energy	Energy value
D	RMS(mV)	Effective value
E	Counts	0 V or number of intersection points of set threshold value
F	Interval(ms)	Transmission interval
G	Wire	Sensor cable information (OK / NG)
H	Power	Power information (OK / NG)
I	Gain(dB)	Gain value
J	LPF(kHz)	LPF value
K	HPF(kHz)	HPF value
L	Threshold(%)	Threshold value
M	Apportion	Energy apportionment value
N	Out1	Threshold alarm 1（0:OFF / 1:ON）
O	Out2	Threshold alarm 1（0:OFF / 1:ON）
P	Version	Version information

2. Summary File

File name: Tool type number-Measurement date-Measurement time_summary.

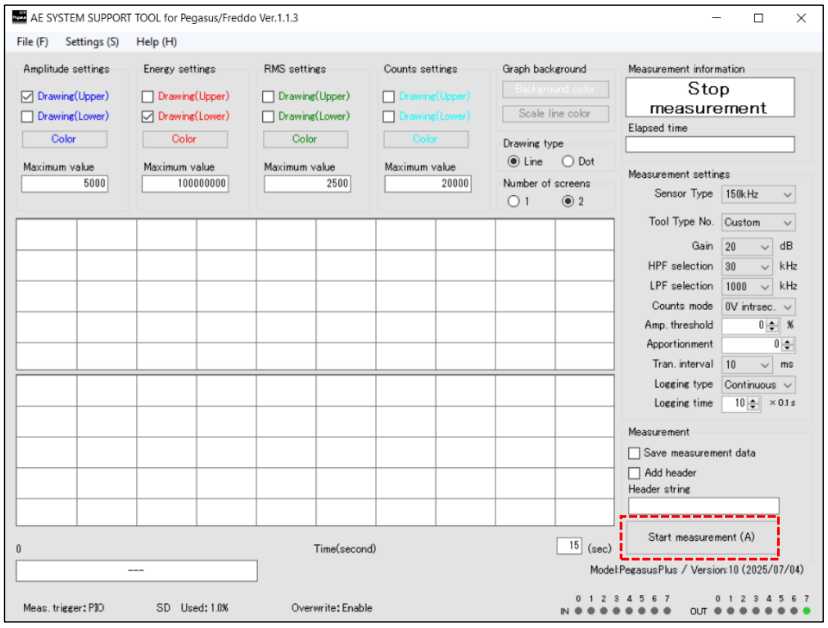
Example: 1-20250425-114953_summary.csv

Row	Item	Description
1	Amplitude-Maximum(mV)	Maximum amplitude value
2	Amplitude-Average(mV)	Average amplitude value
3	Amplitude-Variation(mV)	Variation amplitude value (maximum - minimum)
4	Energy-Maxmum	Maximum energy value
5	Energy-Total	Sum energy value
6	RMS-Maximum(mV)	RMS Maximum
7	RMS-Total	Sum RMS value
8	Energy-Apportionment	Energy apportionment value
9	RMS-Apportionment	RMS apportionment value
10	LPF(kHz)	LPF value
11	HPF(kHz)	HPF value

10. AE Measurement Monitoring Function

During AE measurement, the status of Pegasus/Freddo Plus and the AE measurement waveform can be monitored on the screen.

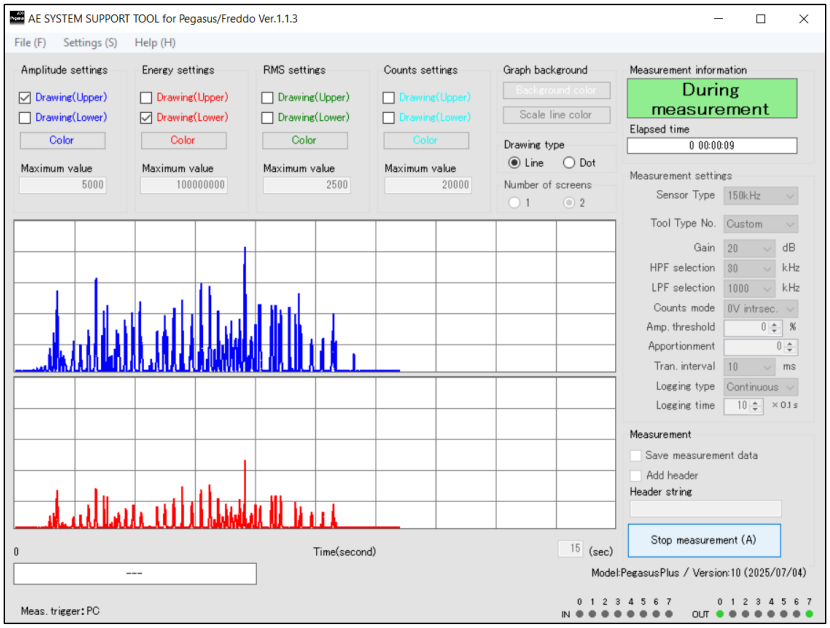
1. Connect the PC to the Perasus Plus via USB or Ethernet cable.



2. Click "Start measurement (A)" on the main screen.
3. The measurement status display will change to "Monitoring."

Monitoring

4. AE measurement will start.



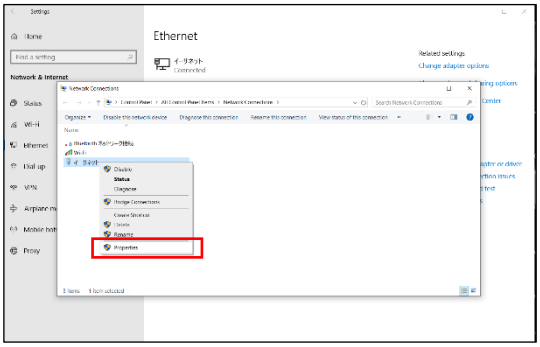
5. If you click the button when [Stop measurement (A)] is displayed, the measurement will stop.

11. Settings for Connecting to a PC via Ethernet

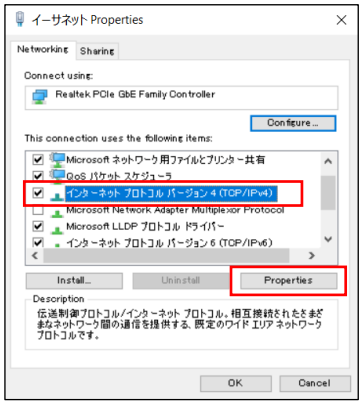
When connecting Pegasus/Freddo to a PC via Ethernet, change the PC's Ethernet settings.

For Windows 10

1. Select [Start] > [Settings] > [Network & Internet].
2. Click the "Ethernet"
3. From the list that appears, click the "Change adapter options"
4. The "Network Connections" screen will be displayed.
   Right-click the "Ethernet"
   Click the "Properties"

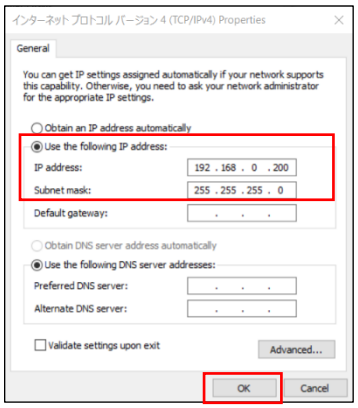


5. The "Ethernet Properties" screen will be displayed.
   Select "Internet Protocol Version 4 (TCP/IPv4)" on the "Networking"tab and click "Properties."



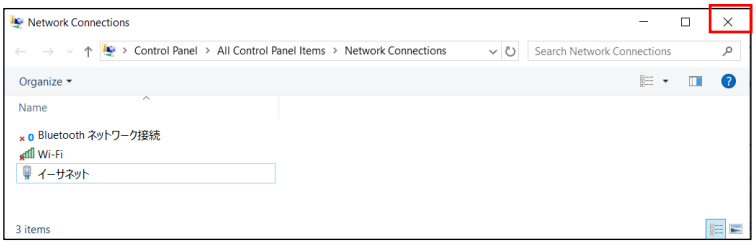
6. The "Internet Protocol Version 4 (TCP/IPv4) Properties" will be displayed.

7. On the "General" tab, select "Use the following IP addresses" and enter the addresses specified in "IP address" and "Subnet mask".
   IP address : 192.168. 0. 200
   Subnet mask : 255.255.255. 0



8. Click"OK", and then click "Close".

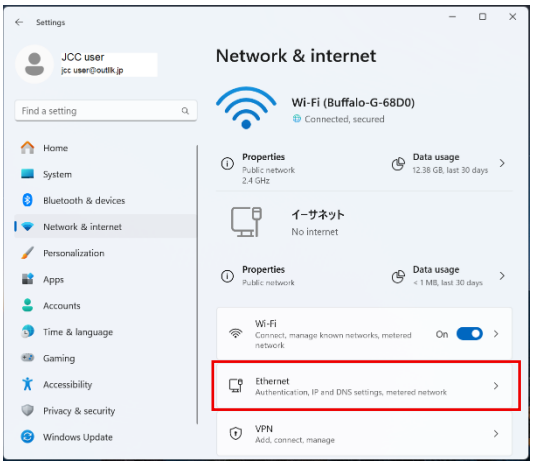
9. Click "×" to close the window.

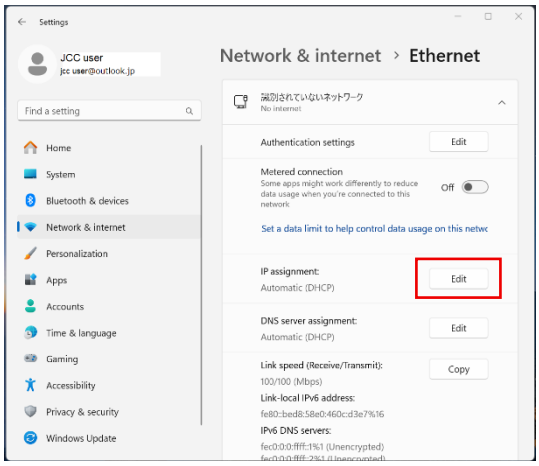


10. Restart the PC.

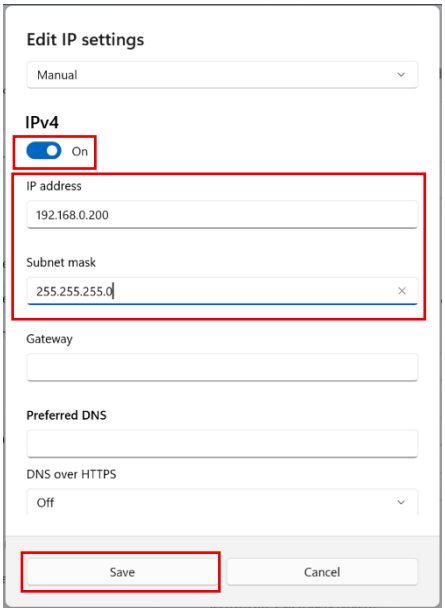
For Windows11

1. Click the [Start] > [Settings] > [Network & Internet].
2. The "Network & Internet" screen will be displayed.
   Click the "Ethernet", Scroll down and click IP assignment :[Edit].





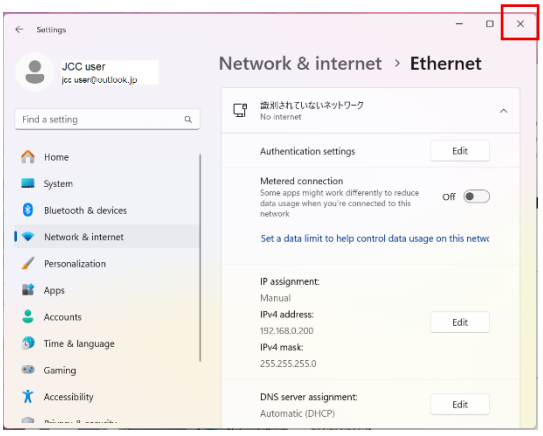
3. The "Edit IP settings" screen will be displayed.
   Click the "Automatic(DHCP)", and select [Manual].



4. Click the slide switch under IPv4 to turn it [On]
   and set the following values.
   IP address : 192.168. 0. 200
   Subnet mask : 255.255.255. 0

5. Click the [SAVE].

6. Click "×" to close the window.



7. Restart the PC.

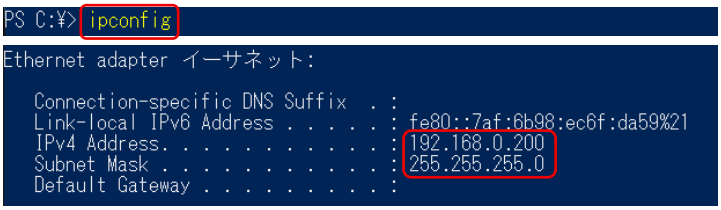
■ If Ethernet communication is not possible, please check the following items.

1. Check that the IP address is correct.
   [Initial value]
   PC(COMPASS) : 192.168.0.200
   Early Observer : 192.168.0.100

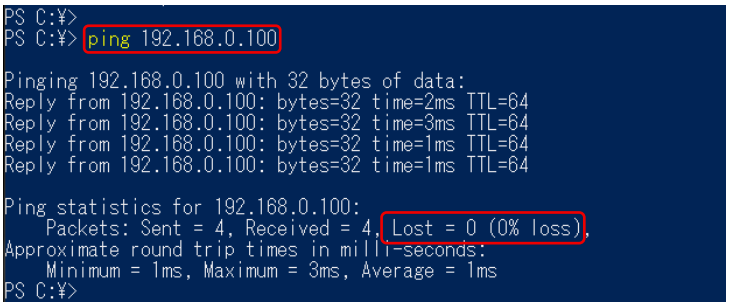
   [1] Launch “Windows PowerShell” from the Start menu.



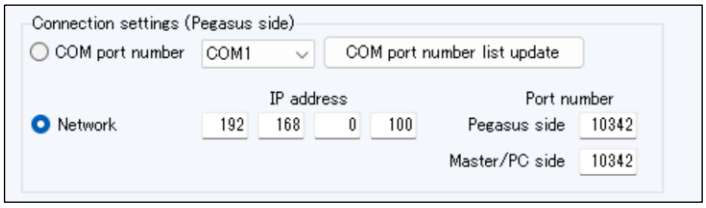
   [2] Check the address with the ipconfig command.
   Type “ipconfig” and press the Enter key.
   Verify that the IPv4 address is displayed as “192.168.0.200”.



2. Check the connection with the ping command.
   Type “ping 192.168.0.100” and press the Enter key.
   Verify that “Loss = 0” is displayed.



3. Check AE TOOL settings.
   Select "Communication(C)" from the "Settings(S)" menu in AE TOOL.
   Select "Network" in the "Connection settings (Pegasus/Freddo side)" section and check the IP address and port number.



4. Check transmission to Pegasus/Freddo.
   Click “Confirm” or “Write PC time” on the “Time settings” screen and verify that a response from Pegasus is displayed.

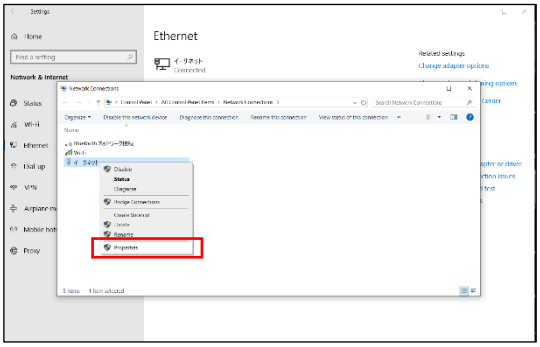
5. If Ethernet communication is still not possible after performing steps 1 to 4, check items.
   - Communication was performed via USB before Ethernet communication (power cycle Freddo).
   - The LAN cable is dislocated from connector.
   - The LAN cable is disconnected.
   - The HUB is faulty.

If Ethernet communication is still not possible after performing steps 1 to 5, communication may be blocked by a firewall. Contact your network administrator for details.

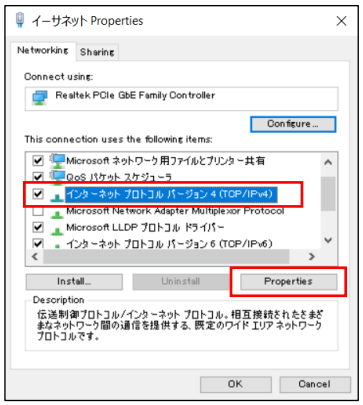
To revert a manually configured IP address, follow the steps below.

For Windows 10

1. Select [Start] > [Settings] > [Network & Internet].
2. Click the "Ethernet"
3. From the list that appears, click the "Change adapter options"
4. The "Network Connections" screen will be displayed.
   Right-click the "Ethernet"
   Click the "Properties"



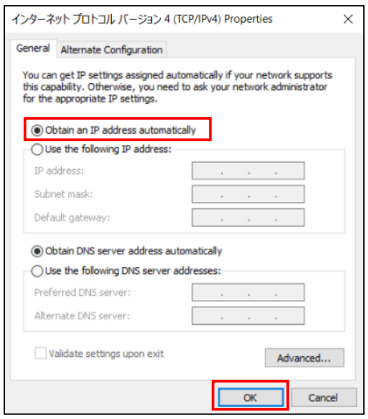
5. The "Ethernet Properties" screen will be displayed.
   Select "Internet Protocol Version 4 (TCP/IPv4)" on the "Networking"tab and click "Properties."



6. The "Internet Protocol Version 4 (TCP/IPv4) Properties" will be displayed.

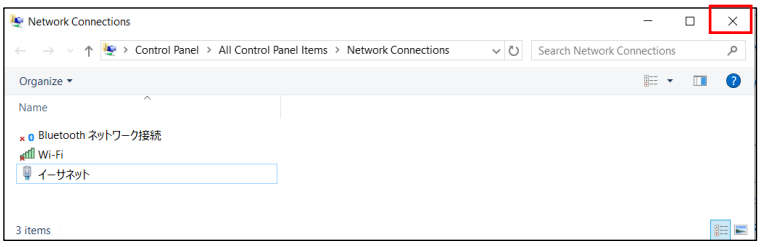
7. On the "General" tab, select "Obtain an IP address automatically".

8. Click"OK", and then click "Close".



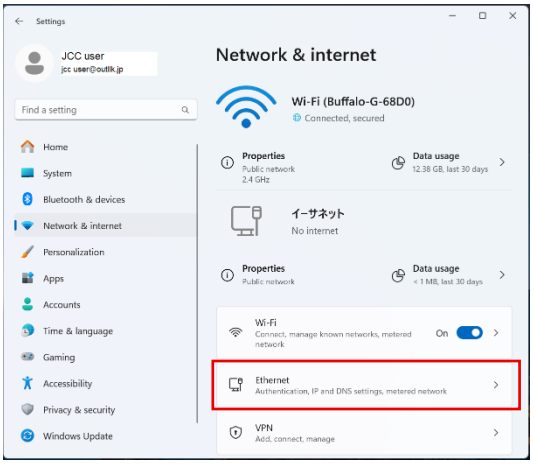
9. Click "×" to close the window.

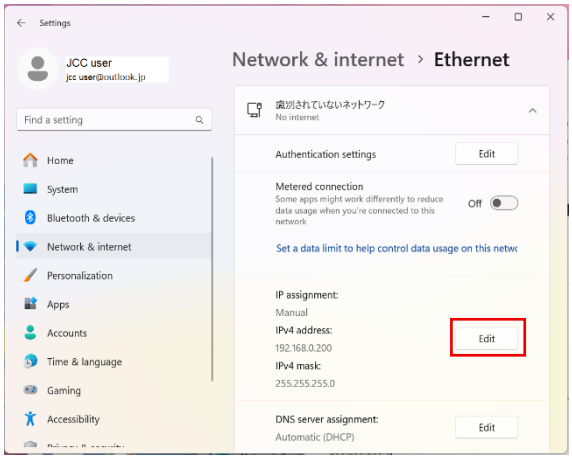
10. Restart the PC.



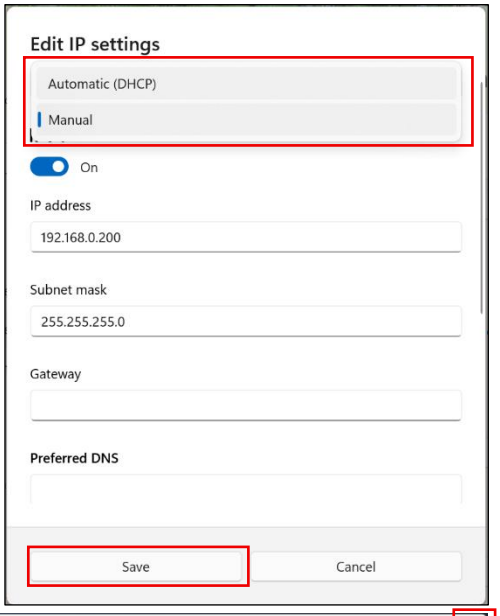
For Windows11

1. Click the [Start] > [Settings] > [Network & Internet].
2. The "Network & Internet" screen will be displayed.
   Click the "Ethernet", Scroll down and click IP assignment :[Edit].





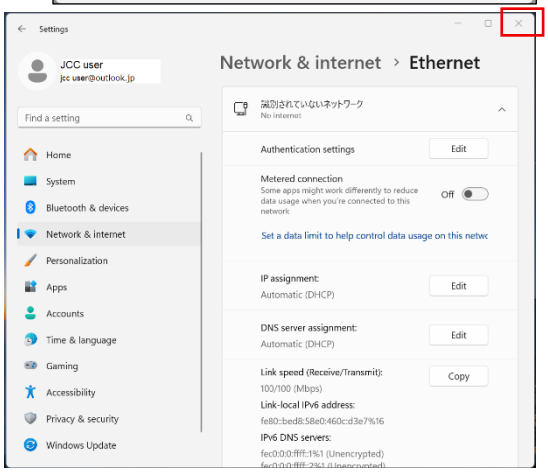
3. The "Edit IP settings" screen will be displayed.
   Click the “Manual”, and select [Automatic(DHCP)].



5. Click the [SAVE].



6. Click "×" to close the window.



7. Restart the PC.



∗This product is a data logging system adopting the AE sensor as a key technology, which does not guarantee machine failure sign diagnosis result or quality control.

■ **Contact**

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