



## Operation Help

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# What is Realtime Clean Air Monitor?

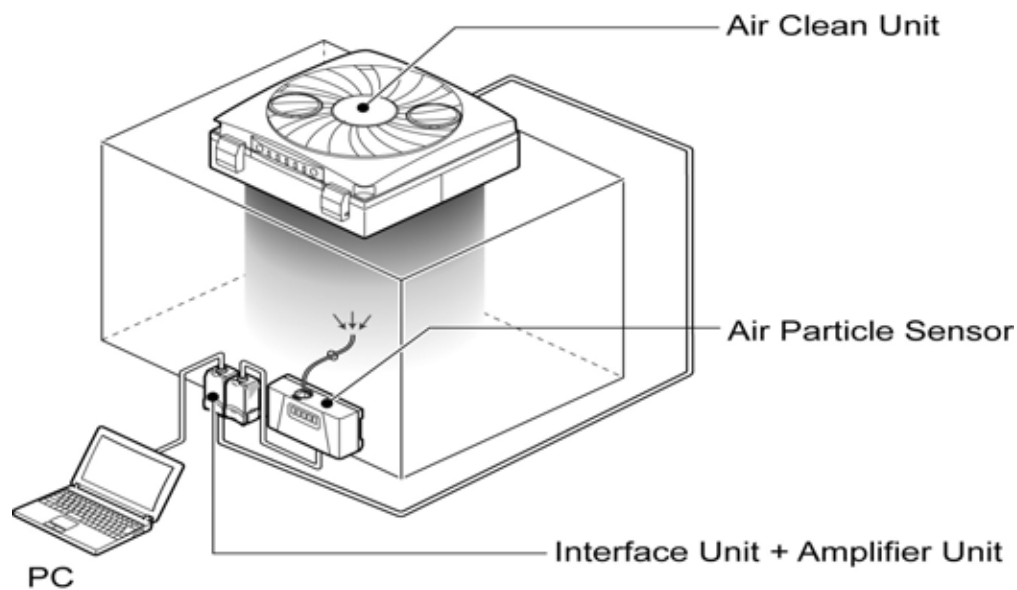
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Realtime Clean Air Monitor is computer software used for monitoring measured values and making changes to the settings of single or multiple connected Air Particle Sensor (ZN-PDA).

The software can be used to perform numerical display, graph display, data logging of measured values, as well as to make changes to sensor settings and IFU (Interface Unit) settings.

## Connection example

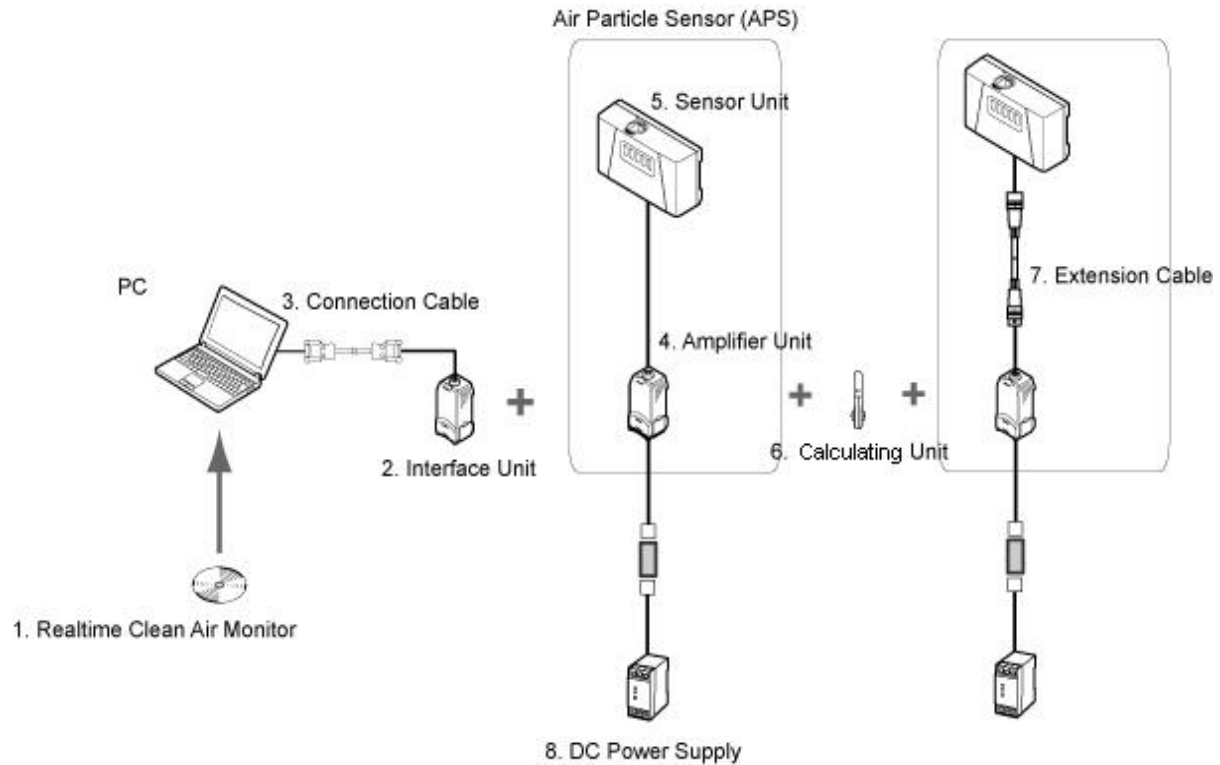
Setting and adjustment can be easily performed while viewing the measured values in the "Realtime Clean Air Monitor" PC software.



# System Configuration

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The product configuration when using Realtime Clean Air Monitor is shown below.

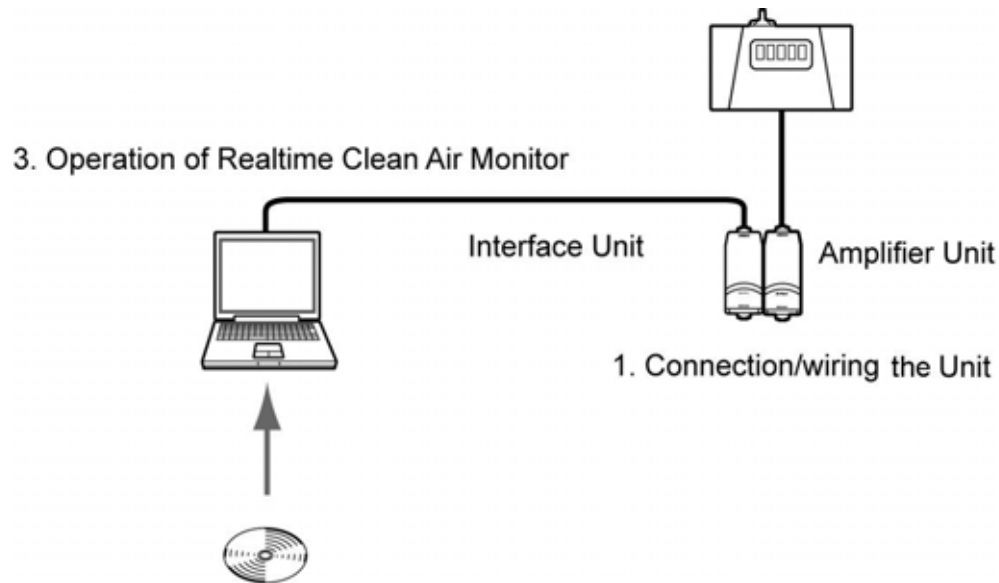


- 1. Realtime Clean Air Monitor**  
Enables Amplifier Units to be operated from the personal computer and enables measured values to be monitored.
- 2. Interface Unit**  
Used to connect to a personal computer or programmable controller.  
Use ZN-SF11 or ZN-SF12.
- 3. Connection Cable**  
Use a commercially available RS-232C cross cable.
- 4. Amplifier Unit**  
Performs measurements and outputs measurement results. Use ZN-PDA11 or ZN-PDA12.
- 5. Sensor Unit**  
Measures the amount of particles. Use ZN-PD03.
- 6. Calculating Unit**  
Used to connect two or more Amplifier Units. Use ZX-CAL2.
- 7. Extension Cable**  
Used between a Sensor Unit and Amplifier Unit.  
Only one extension cable can be used.  
Use ZX-XC1A (1m), ZX-XC4A (4m), or ZX-XC8A (8m).
- 8. Power Supply**  
The power supply is 24 VDC ( $\pm 10\%$ ).

# Operation Procedure

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The general operation procedure for using Realtime Clean Air Monitor is shown below.



## 2. Installation and startup of Realtime Clean Air Monitor

### 1. Connection/wiring the Unit

Connect the Sensor Head, Amplifier Unit, and Interface Unit.  
Use an RS-232C cross cable to connect the Interface Unit to the personal computer.

### 2. Installation and startup of Realtime Clean Air Monitor

Install Realtime Clean Air Monitor on the personal computer.

### 3. Operate Realtime Clean Air Monitor

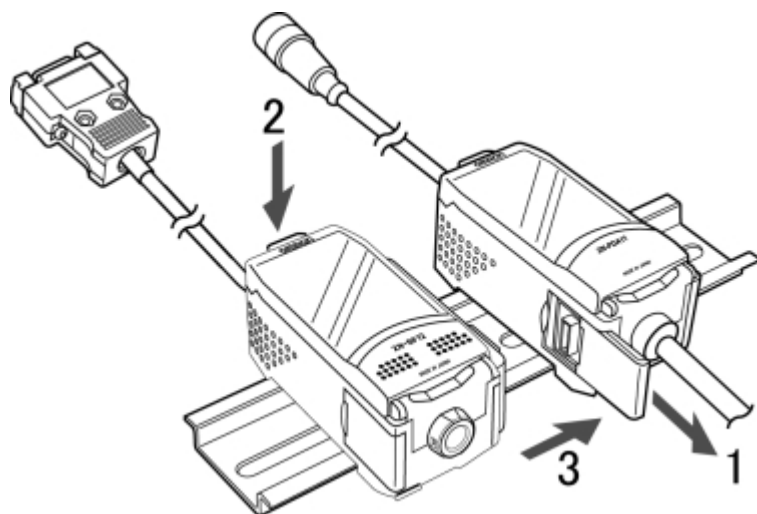
Display measured values, perform sensor settings, Interface Unit settings, etc.



During startup of Realtime Clean Air Monitor, set the slide switches of Interface Unit and Amplifier Unit to RUN mode.  
Otherwise data acquisition error or communication error may occur.

## Connecting an Amplifier Unit

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- 1. Open the connector cover on the Amplifier Unit.**  
Open the connector cover by lifting and sliding it open.
- 2. Mount the Amplifier Unit and Interface Unit on the DIN track.**  
Hook the connector end of the Amplifier Unit on the DIN track and press in at the bottom until the Unit locks into place.
- 3. Slide the Interface Unit, and insert it into the connector on the Amplifier Unit.**

To disconnect the Interface Unit, perform the above procedure in reverse order.

For details about installing the Sensor Head and connecting the Sensor Head to the Amplifier Unit, refer to the instruction manual for the Smart Sensor series being used.

# Installing on a Personal Computer

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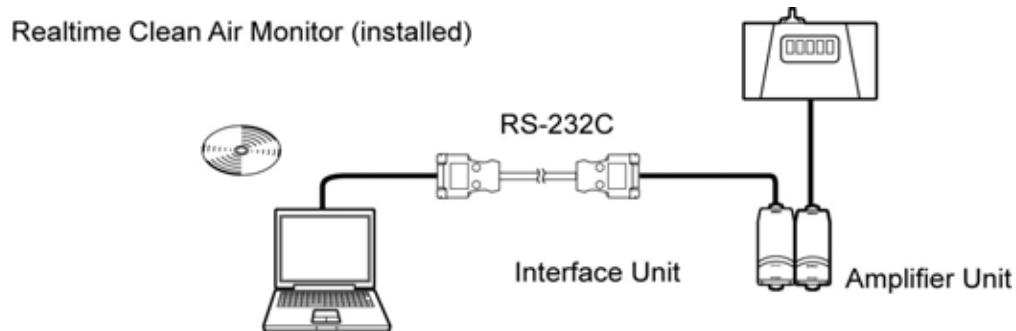
Follow the steps below to install Realtime Clean Air Monitor on the personal computer.  
Installation only needs to be performed the first time the program is started up.

- 1. The setup program starts up automatically when the Realtime Clean Air Monitor CD-ROM is inserted into the computer.**  
If it does not start up automatically, run "setup.exe" on the CD-ROM.
- 2. Follow the directions of the setup program to perform installation.**

# Startup Procedure

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1. **Connect the PC and Interface Unit.**
2. **Turn ON the power supply to the Amplifier Unit.**  
Set the Amplifier Unit's mode switch to "RUN".  
(Operations from Real Time Clean Air Monitor are enabled only in RUN mode.)
3. **After completing startup of Interface Unit,**  
run [Start] - [Programs (P)] - [OMRON] - [Realtime Clean Air Monitor] - [Realtime Clean Air Monitor].



Make sure to start up the Realtime Clean Air Monitor after power is supplied to the Amplifier Unit.  
(except when in Offline mode)



Do not disconnect the Interface Unit while power is being supplied. Doing so may result in damage or malfunction.



# Reading the Screens

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This section describes the common screens used in Realtime Clean Air Monitor.

## Menu Bar List



### - [File] Menu

The following operations are available:

- **Save Screen**  
Starts up the image processing software and pastes the currently displayed window.  
If you save the image, save it with the image processing software you started.
- **Quit**  
Quits the application.

### - [Option] Menu

The following operations are available:

- **Data Folder**  
Sets the save location of the logging data file/graph data file/sensor setting data file/interface Unit setting data file.
- **Alignment of windows**  
The displayed windows can be arranged in a line at the top of the window.
- **Configuration**  
The decimal points and delimiters of CSV file to be displayed on the screen can be defined.  
If you use an OS other than Japanese version, change the settings as needed.  
The settings are reflected when the software is restarted.

### - [Help] Menu

The following operations are available:

- **Contents**  
Displays Operation Help (this screen).
- **Version**  
Displays the version information of this application.

# Toolbar List



## - [Main] Button

Displays the [Main] window.

## - [Graph] Button

Displays the [Graph] window.

## - [Settings] Button

Displays the [Settings] window.

## - [Logging] Button

Displays the [Logging] window.

## - [IFU Setting] Button

Displays the [IFU Setting] window.



Settings for Interface Unit is valid only when ZN-SF12 is connected.

# Main Screen Configuration

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## Screen Description

The [Main] window is displayed when the [Main] button is clicked.

The measured values and the status of the Amplifier Unit, such as the High/Pass/Low status of the measured values, can be displayed on this screen.

For details about the [Edit display details] window, refer to "Setting the Display Content for Measured Values".

--> "[Setting the Display Content for Measured Values](#)"

## Display Screen

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### - Digital Display

Up to 10 measured values can be displayed.

### - Analogue Display

The measured value can be displayed in analogue format (bar display).

## Measured Value Display

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### - Digital Display

Displays the current measurement values. The [Display Content] selected/assigned in the [Edit display details] window is displayed. The color of the measured value indicates its High/Pass/Low status.

Text color	State of the measured value	
	Air particle sensor	Other sensors
Orange	Warning output status	High
Green	Normal status	Pass
Light yellow	Attention output status	Low

## - Analogue Display

The current measured value is displayed in analogue format (bar display).

Set the analogue display by clicking the [Edit Window] button and displaying the [Edit display details] window.



In the analogue display, the unit is not displayed.

## - Label

The items shown below are displayed.

Set the items to display by clicking the [Edit Window] button and displaying the [Edit display details] window.

- **CH No.**  
The displayed channel number is displayed.
- **Label**  
The label set in the [Edit display details] window is displayed.

## [Edit Window] Button

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Sets the display content of the [Main] window.

For details about the settings, refer to "Setting the Display Content for Measured Values".

--> "[Setting the Display Content for Measured Values](#)"

# Setting the Display Content for Measured Values

Set the display content of the measured values displayed on the [Main] screen.

## Operation Procedure

1. Click the [Edit Window] button.  
The [Edit display details] window is displayed.
2. Set the display content.

## Setting Screen

	Display	CH No.	Displayed	Display type	Title
1	<input checked="" type="checkbox"/>	CH1	0.3um	Digital	0.3um
2	<input checked="" type="checkbox"/>	CH1	0.3um	Analog	0.3um
3	<input type="checkbox"/>	CH2	0.3um	Digital	0.3um
4	<input type="checkbox"/>	CH2	0.3um	Analog	0.3um
5	<input type="checkbox"/>	CH3	0.3um	Digital	0.3um
6	<input type="checkbox"/>	CH3	0.3um	Analog	0.3um
7	<input type="checkbox"/>	CH4	0.3um	Digital	0.3um
8	<input type="checkbox"/>	CH4	0.3um	Analog	0.3um
9	<input type="checkbox"/>	CH5	0.3um	Digital	0.3um

### - Select display

Select either large display/small display for the [Main] screen.

### - Display ON/OFF Checkbox

The specified display content is displayed only for items with a check mark here.

### - CH No.

Select the number of the channel that displays the measured value.

## - Displayed

Select one of the following items you want to display.

- 1.0um
- 0.5um
- 0.3um

## - Display type

Select the display methods.

- Analog
- Digital

## - Title

Enter the label for the displayed measured value. Enter a maximum of 5 double-byte alphanumeric characters.

As a default, the item selected by the display content is entered as the label.

## - Arrangement

Select the arrangement of display contents.

## - [OK] Button

Applies the setting changes and closes the [Edit display details] window.

## - [Undo] Button

Cancels any setting changes and restores the settings to how they were when the [Edit display details] window was opened.

## - [Close] Button

Closes the [Edit display details] window.

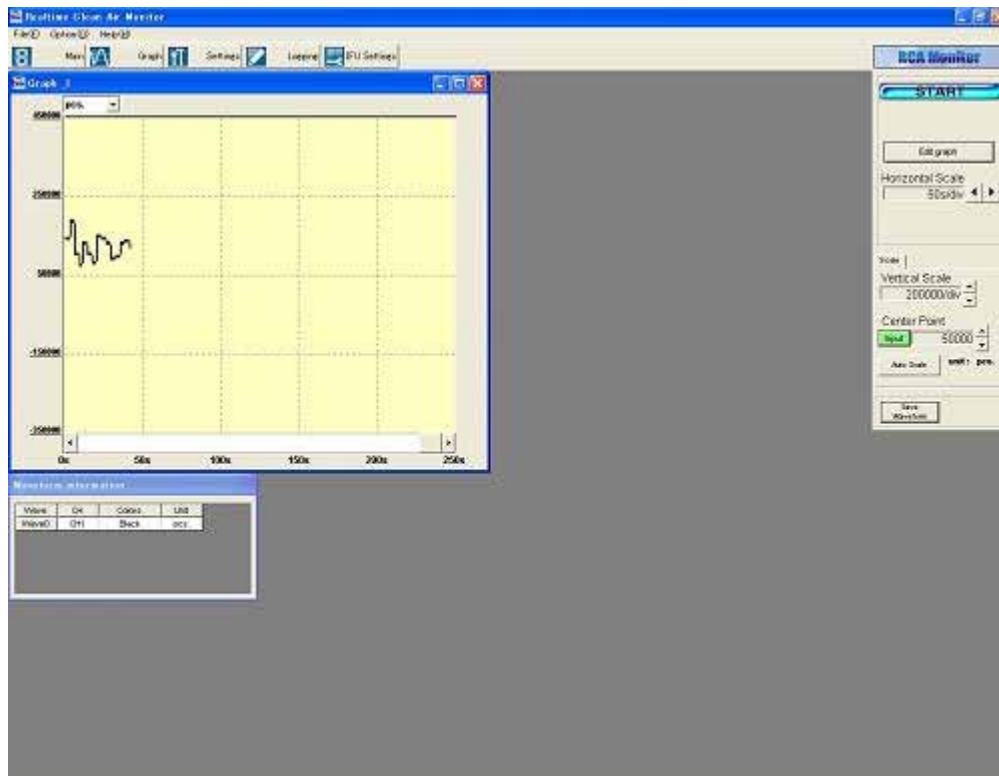
If changes were made to the settings, a dialog box confirming whether or not the changes were made is displayed.

# Graph Screen Configuration

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The [Graph] window is displayed when the [Graph] button is clicked.  
Perform settings for graph display, waveform, etc. on this screen.

## Screen Description



## Graph Plotter

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Plots the set waveform in the [Edit graph] window.

- **Unit Selection Menu**  
Select the unit to use from the pull-down menu.  
The unit selected here is used with the [Scale] tab in the settings for each screen.

## Information Window

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Displays the current measurement cycle.

- **[Waveform Information] Window**  
Displays the selected content using the waveform plotting options.

## Settings for All Graphs

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Perform settings for waveforms displayed in the graph plotter.

### - [START]/ [STOP] Button

Starts/stops continuous waveform plotting. The button applies to all graphs.

### - [Edit graph] Button

Sets the items subject to graph plotting.



A maximum of 5 waveforms can be plotted at one time.

--> "[\[Edit graph\] Window](#)"

### - [Save Waveform] Button

Saves the waveform data. You can select whether to save all waveforms or specified waveforms.

--> "[\[Waveform Save Options\] Window](#)"

## Settings for Each Screen

---

Perform graph plotter settings, such as vertical axis scale or threshold value position settings.

### - [Scale] Tab

The screenshot shows the 'Scale' tab of a settings window. It contains three main sections: 'Vertical Scale' with a text box showing '50000/div' and up/down arrows; 'Center Point' with a green 'Input' button, a text box showing '10000', and up/down arrows; and an 'Auto Scale' button. At the bottom right, it says 'unit : pcs.'.

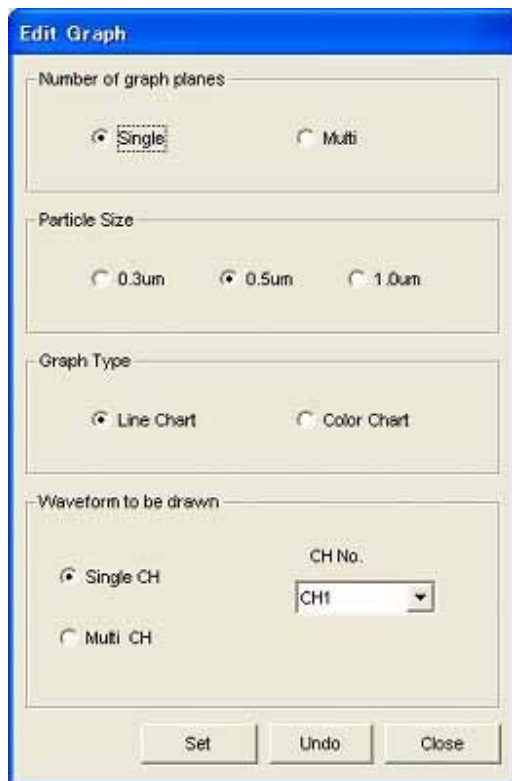
- **Vertical Scale**  
Sets the vertical axis scale of the graph plotter.
- **Center Point**  
Sets the graph plotter's vertical axis center value.
- **Auto Scale**  
Sets the vertical axis to a scale that enables all waveforms to be displayed in the graph plotter.



# [Edit graph] Window

---

## Screen Description



### - Number of Graph planes

Specifies the number of screens for plotting the graphs.

- **Single**  
All selected waveforms are plotted on a single graph plotter.
- **Multi**  
Each waveform is plotted on a separate graph plotter.

### - Particle Size

Specifies the particle sizes (0.3um/0.5um/1.0um) for plotting the graphs.

### - Graph Type

Specifies how to display the graphs.

- **Line Chart**  
Displays the maximum/minimum values over a period of plotted time.
- **Color Chart**  
Displays the current value by color.

## - Waveform to be drawn

Selects the numbers of the channels that plot the waveform.

- **Single Channel/ Multiple Channel**

- **Single CH**

- Plots the channel number of a specific channel.

- **Multi CH**

- Selects multiple channel numbers and plots them at the same time.

- **Channel 1 to 10**

Select the channel numbers to plot by placing check marks in the check boxes.

Channel numbers with a gray background cannot be selected.



A maximum of 5 waveforms can be plotted at one time.

## - [Set] Button

Applies the settings and closes the window.

## - [Undo] Button

Stops the changes from being made, and restores settings to how they were when the window was opened.

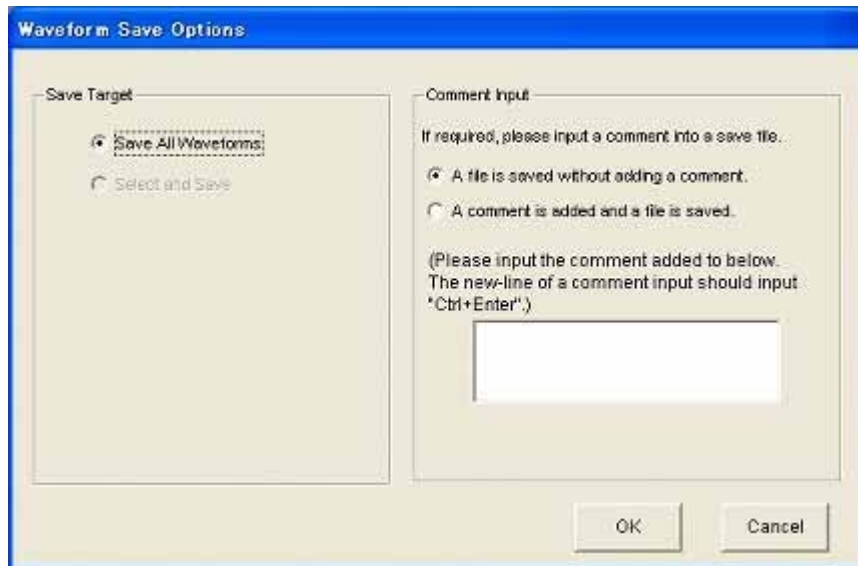
## - [Close] Button

Closes the window. If changes were made to the settings, a confirmation dialog box is displayed.

# [Waveform Save Options] Window

---

## Screen Description



### - Save Target

- **Save All Waveforms**  
Saves all waveforms.
- **Select and Save**  
Saves the waveform data for those selected.

### - Comment Input

Select whether or not to attach comments to the saved files.

- **A file is saved without adding a comment.**  
Waveforms are saved without comments attached.
- **A comment is added and a file is saved.**  
Comments are added and waveforms are saved. Enter comments into the text box at the bottom.

### - [OK] Button

The waveform is saved according to the specified settings.

### - [Cancel] Button

No settings are made, and you return to the graph screen.

# Graph Plotter Setting Procedure

---

This section describes how to make settings for the graph plotter.

## Setting Procedure

**1. Make the waveform display settings.**

You can make settings at a later time.

--> "[Displaying Easy-to-Read Waveforms](#)"

**2. Make settings to specify which waveforms to plot.**

See "[Setting the Waveforms to Plot](#)".

**3. Click the [START] button.**

Waveform plotting begins.

**4. Click the [STOP] button.**

Waveform plotting stops.

**5. If necessary, make settings to display a scaled representation of the waveform.**

**6. Perform waveform processing.**

It is possible to make changes to the waveform save and scale settings.

--> "[Saving Waveforms](#)"

# Displaying Waveforms for Measured Values

---

## Operation Procedure

1. **Make settings to specify which waveforms to plot.**
2. **Click the [START] button.**  
Waveform plotting begins.
3. **Click the [STOP] button.**  
Waveform plotting stops.

# Displaying Easy-to-Read Waveforms

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## Operation Procedure

### Manually Changing Waveform Display Scales

---

1. Determine the [Vertical Scale]/[Horizontal Scale]/[Center Point] suitable for the data you want to measure.

Change the values by clicking the up/down arrow buttons.



For [Center Point], values can be entered directly when the [Input] button is clicked.

### Automatically Adjusting Waveform Display Scales

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1. Click the [Auto Scale] button.  
[Vertical Scale] and [Center Point] are automatically adjusted so that all waveforms are displayed in the graph plotter.

# Setting the Waveforms to Plot

---

## Operation Procedure

1. **Click the [Edit graph] button.**  
The [Edit graph] window is displayed.

--> "[\[Edit graph\] Window](#)"

2. **Set the number of graph planes, particle size, graph type, and waveform to be drawn.**
3. **Click the [Set] button.**  
The settings are applied and the [Edit graph] window closes.

# Saving Waveforms

---

## Operation Procedure

1. Click the **[Save Waveform]** button.  
The [Waveform Save Options] window is displayed.
2. Enter the waveform, comments, etc. to save, and then click the **[OK]** button.



A CSV file (compatible with programs such as Microsoft Excel) can be output.



# Sensor Settings Screen Configuration

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## Settings

The [Settings] window is displayed when the [Settings] button is clicked.

The setting values for the Amplifier Unit of the currently selected channel can be displayed and changed.



When changing to a different channel, changes are made on the subscreen (on the right side

of the Realtime Clean Air Monitor screen) while the [Settings] window is displayed.

The channel cannot be changed if the [Settings] window is not displayed.

## [Settings] Window

---

When the tab on the screen is clicked, setting items can be changed.

After settings are changed, click the [OK] button to apply the changes.



The items that can be set in the [Settings] window vary according to the sensor being used.

For more details about setting items, refer to the operating manual for the Smart Sensor series being used.

The screenshot shows a 'Settings' window with a blue title bar and standard Windows window controls. Below the title bar is a tabbed interface with the following tabs: Sensing, Output, Hold, Scaling, Monitor Focus, Display, Special, Initialize, Air Clean Unit, and Bank. The 'Sensing' tab is currently selected. The main area contains several settings groups, each with a title and radio button options:

- Air Volume Level Control:** Radio buttons for 'Auto' and 'Manual' (selected).
- Feedback Type:** Radio buttons for 'Rapid' (selected) and 'Constant'.
- Target Class(0.5um):** Radio buttons for '100' (selected), '1000', and '10000'.
- Low Power (Wind):** Radio buttons for '1' (selected), '2', '3', '4', and '5'.
- High Power (Wind):** Radio buttons for '1', '2', '3', '4', and '5' (selected).
- High Power (Time):** A numeric input field showing '60' with a unit 's'.

At the bottom right of the window are two buttons: 'OK' and 'Undo'.

### - [OK] Button

Updates the Amplifier Unit with the system setting values and parameter setting values entered on this screen.

### - [Undo] Button

Restores the settings to how they were when the [Settings] window was opened.

# Logging Screen Configuration

---

The [Logging] window is displayed when the [Logging] button is clicked.  
Use this window to make settings for accumulating the measurement data.

## Screen Description

The screenshot shows the 'Logging' window with the following settings:

- Settings**
  - Sampling Interval: 1sec
  - Output Data Selection: [button]
  - ☒ Daily File Output
- Logging Information**
  - ☒ 0.3um
  - ☒ 0.5um
  - ☒ 1.0um
- End Conditions**
  - ☒ Time Designation : None
  - ☐ Log Time: 0 h 0 m 1 s [Input]
- Logging Time Information**
  - ☒ Elapsed Time
  - ☐ Real Time
- Logging Display**
  - Channel: 1CH
  - Particle: 0.5um
  - Vertical Scale: 100/div
  - Center Point: [Input] 40
  - Unit: pcs.
  - Horizontal Scale: 1min / div

Buttons at the bottom: [Exe.] and [Save]

### - Settings

- **Sampling Interval**  
Sets the sampling interval in data logging.
- **[Output Data Selection] button**  
Select the number of the channel for output. When this button is clicked, the [Select CH] window is displayed.  
  
--> "[\[Select CH\] Window](#)"
- **Logging Information**  
Select the type of logging from 0.3um/ 0.5um/ 1.0um (two or more types can be selected).
- **Daily File Output**  
With this box checked, daily Logging file can be created automatically.

## - End Conditions

Specify the end conditions. The 2 types of settings for how to end are shown below.

- **Time Designation:None**  
End logging manually.
- **Log Time**  
Click the [Input] button to set the period of time until logging ends.

## - Logging Time Information

Specify the method for displaying the time data that was saved when the data was logged.

- **Elapsed Time**  
The time elapsed since logging started is saved as data.
- **Real Time**  
The actual time is saved as data.

## - Logging Display

Select the channel and particle to plot on the graph display.

Set the graph plotter's vertical scale, horizontal scale, center point, and display unit.

Use the up/down arrow buttons to change the values.



"Center Point" values can be entered directly when the [Input] button is clicked.

The unit selected in "Unit" is also shown in the graph plotter.

## - [Exe.] Button

Click this button to execute logging.

## - [Save] Button

Click this button to save the logging data.

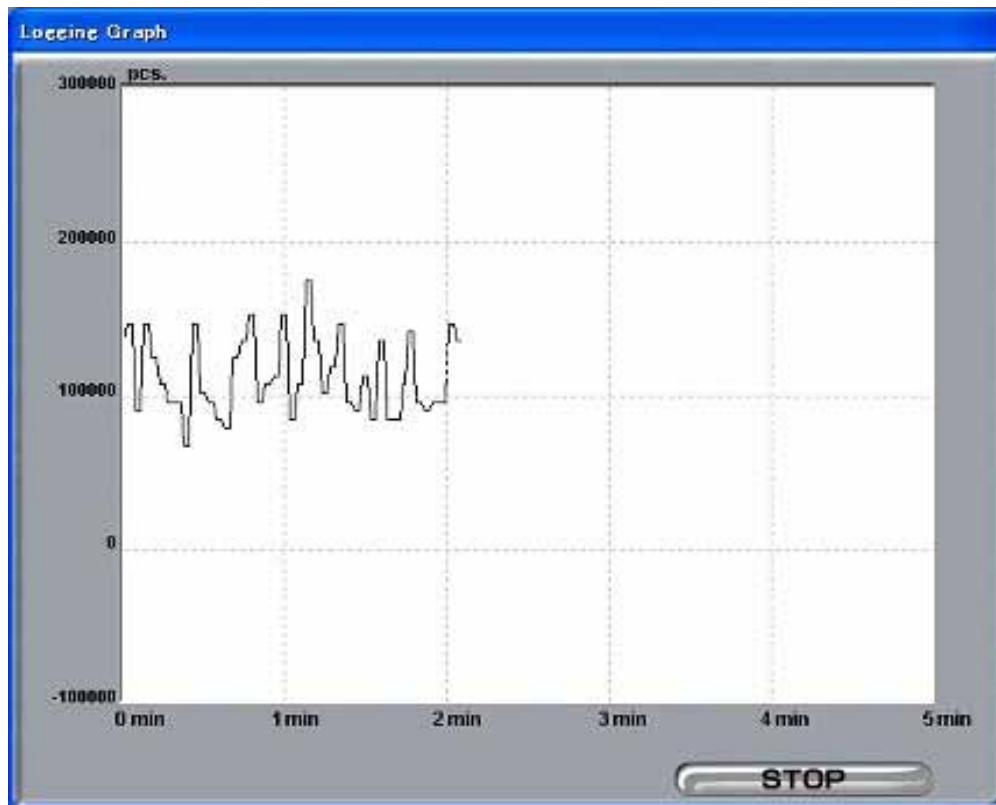
The time information (year, month, day, time) is set as the default file name when saving.

The file name can be changed freely when saving.

## Graph Screen During Logging

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The graph screen is displayed when logging is executed.



### - [STOP] Button

Click the [STOP] button on the display graph screen to stop logging while it is being executed.

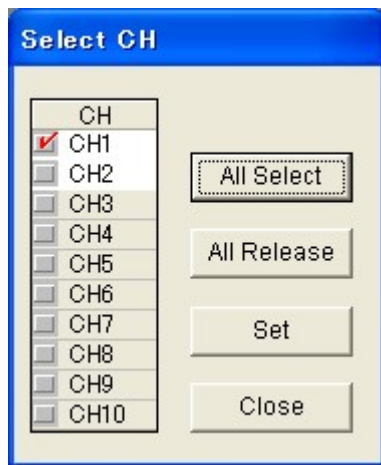
### - Graph Display

Measurement data is plotted at Graph screen as setting of [Logging Display].

# [Select CH] Window

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## Screen Description



### - [CH 1 to 10] Check Boxes

The channel numbers indicated with a check mark are output.

The maximum number of channel numbers is 10, and the selected number of menus and Amplifiers is automatically set (increased/decreased).

### - [All Select] Button

Inserts a check for all items.

### - [All Release] Button

Removes the check from all items.

### - [Set] Button

Applies the settings and closes the window.

### - [Close] Button

Closes the window.

# Logging Measurement Results

---

This section describes the procedure for logging the measurement results.

## Operation Procedure

**1. Click the [Logging] button.**

The [Logging] window is displayed.

**2. Select the detailed settings.**

- Sampling Interval
- Logging information
- Daily File Output

--> "[Detailed Settings](#)"

**3. Specify the end conditions.**

- Time Designation:None
- Log time

--> "[End Conditions](#)"

**4. Specify the time information saved with the data.**

- Elapsed time
- Real time

--> "[Logging Time Information](#)"

**5. Select the vertical axis scale, vertical axis center of the graph, and unit displayed during logging.**

- Channel (a channel displayed in graph)
- Particle
- Vertical Scale
- Horizontal Scale
- Center Point
- Unit

--> "[Display During Logging](#)"

**6. Click the [Exe.] button.**

**7. The graph screen is displayed during logging.**

**8. After logging ends, specify the file name and save the logging data.**

# Settings for Interface Unit Screen Configuration

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## Settings for Interface Unit

The [Settings for Interface Unit] window is displayed when the [IFU Settings] button is clicked. The setting values for the connected Interface Unit can be displayed and changed.

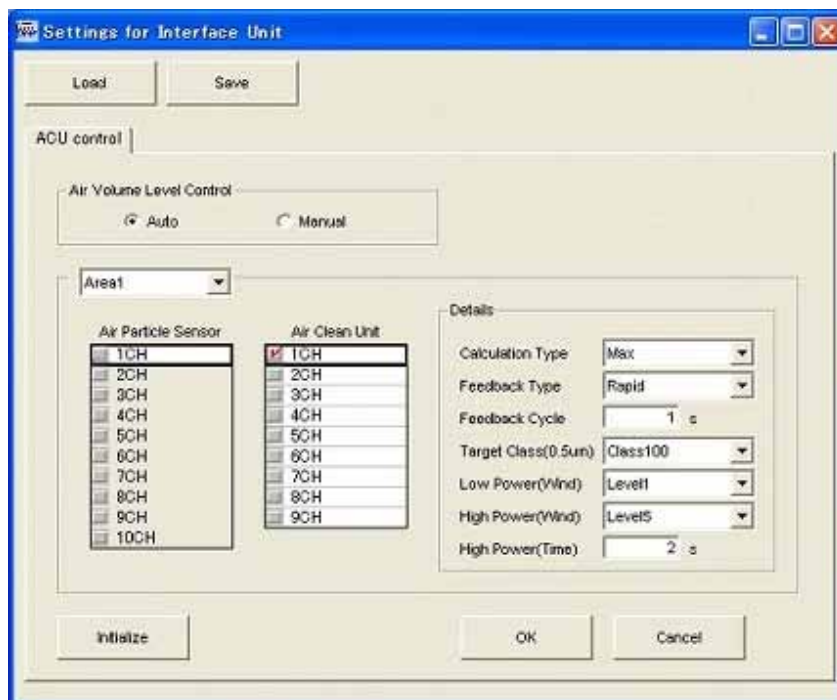


Settings for Interface Unit is valid only when ZN-SF12 is connected.

## [Settings for Interface Unit] Window

---

After settings are changed, click the [OK] button to apply the changes.



### - [Load] Button

Reads the settings from the file.

### - [Save] Button

Saves the settings to the file.

### - [OK] Button

Updates the Interface Unit with the system setting values and parameter setting values entered on this screen.

### - [Cancel] Button

Restores the settings to how they were when the [Settings for Interface Unit] window was opened.



# Firmware Update Procedure

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This section describes the procedure to update the firmware of ZX/ZJ/ZN series.

<b>ZX Series</b>	ZX-LDA-N/ZX-EDA
<b>ZJ series</b>	ZJ-SDA
<b>ZN series</b>	ZN-SDA



Failure of firmware update may cause abnormal startup of the Amplifier Unit.  
Follow the update procedure and the instructions on the screen to operate properly.

1. [Starting WarpEngine](#)
2. [How to Operate WarpEngine](#)
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## 1. Starting WarpEngine

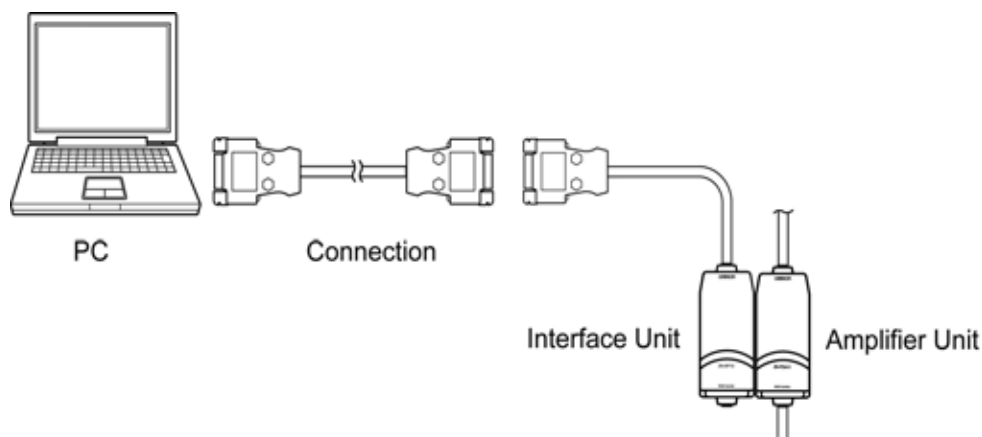
1. **Connect an Amplifier Unit and an Interface Unit of ZX series.**



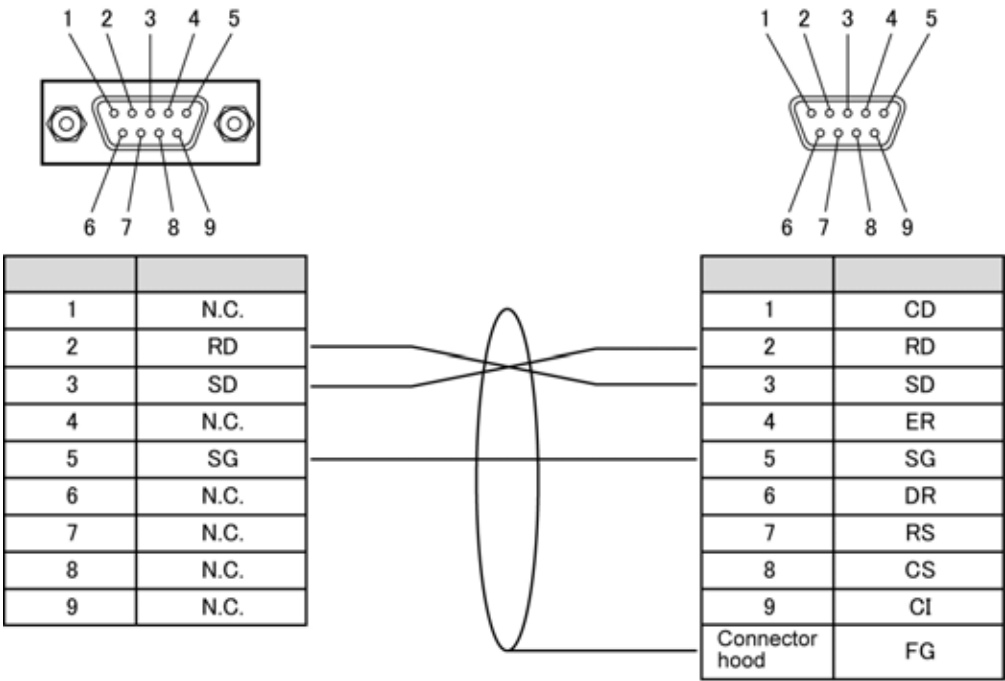
When you update the firmware, turn on the power supply while the Interface Unit and Amplifier Unit are connected.  
When two or more Amplifier Units are connected, WarpEngine does not start.

2. **Use an RS-232C cross cable to connect the Interface Unit with the personal computer.**
3. **Turn ON the power supply to the Amplifier Unit.**
4. **After checking that the Interface Unit has been started, run [Start]-[Programs]-[OMRON]-[WarpEngine].**

### - Example with Personal Computer



- Connector pin arrangements

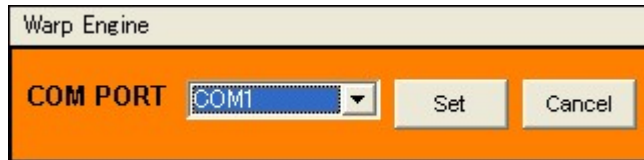


## Failure of WarpEngine startup

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When WarpEngine startup fails, the following screen will be displayed after a message.

If this screen appears, select the port number in which the Interface Unit is connected, and click the [Set] button. If a correct port number is selected, WarpEngine will be started.



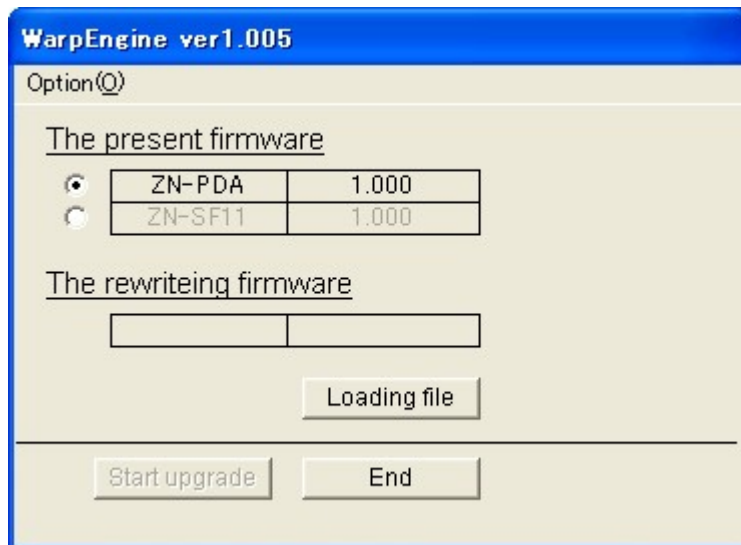
### - Verifying the Port Number


1. **Select [Start]-[Settings]-[Control Panels].**  
The Control Panel is displayed.
2. **Double-click [System].**  
The [System Properties] window is displayed.
3. **Click the [Hardware] tab, then click the [Device Manager] button.**  
The [Device Manager] window is displayed.
4. **Verify the Communications Port number (COM\*) in the [Ports] of the Device Manager.**



## 2. How to Operate WarpEngine

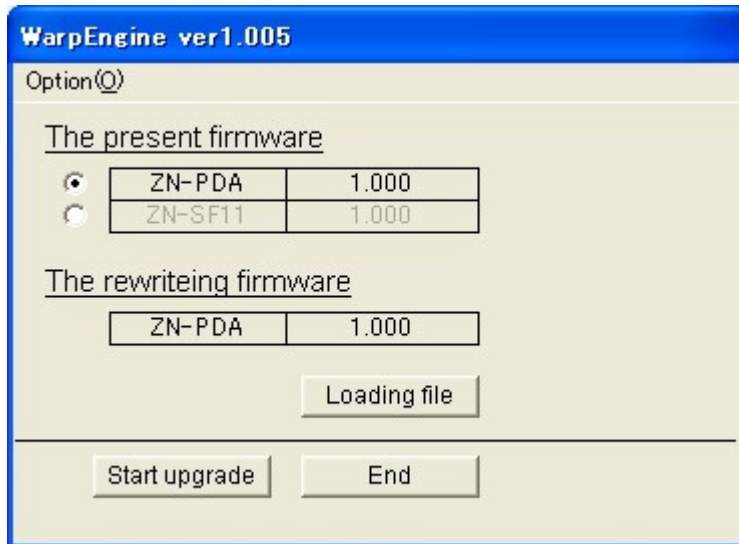
When you start WarpEngine, the following screen is displayed.  
This section describes the displays and operations of WarpEngine.



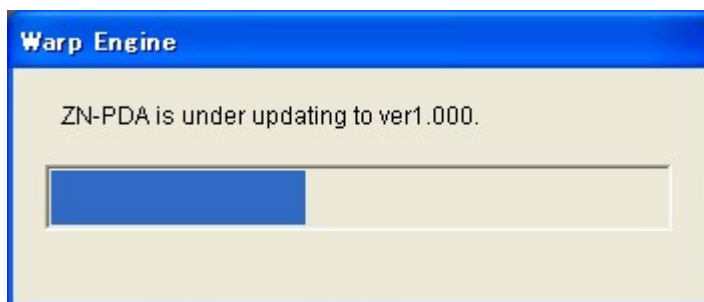
- **[The present firmware]**  
Displays the types and versions of the currently connected Amplifier Unit and Interface Unit.
- **[The rewriteing firmware]**  
Displays the format and version of the file to be updated.  
The columns are left blank immediately after the startup.
- **[Loading file] button**  
When you click the button and select a file to write, the format and version to be updated are displayed on [The rewriteing firmware]].
- **[Start upgrade] button**  
When you click the [Loading file] button and select a file, the content is written to the currently connected Amplifier Unit.  
 If the message "Different Format" is shown when clicking the [Start upgrade] button, it means that the currently selected Amplifier Unit and the file format information do not match. In this case, do not execute the update. Doing so may cause Amplifier Unit failure and the unit may not start up successfully.
- **[End] button**  
Terminates WarpEngine.

### 3. Updating Firmware

1. Click the [Loading file] button to specify the file to write to the Amplifier Unit.  
The format and version to be updated are displayed on [The rewriting firmware].
2. Click the [Start upgrade] button.  
The content of the specified file is written to the Amplifier Unit and the firmware update starts.



3. The progress is displayed during the update.  
The updating process takes several minutes. Wait until the message box that shows the normal termination is displayed.




You need to wait even if an error occurs on the Amplifier Unit during the update.  
If the progress bar stops in the middle of the update, or if the update does not complete after more than 10 minutes, it may indicate that the update has failed.  
In such case, please report the firmware version before update and the firmware version of the writing file to our sales representatives.

**4. When the update is completed, a message is displayed.**

Clicking the [OK] button completes the firmware update.



 If the message "E-EEP" is shown on the main digital display of the Amplifier Unit after the firmware update, the Amplifier Unit needs to be initialized.  
After initializing the Amplifier Unit manually by pressing the [ENT] key for more than 3 seconds, restore the power supply.

## 4. Precautions

Do not turn off the power supply of the Amplifier Unit during the update (The warning is also displayed on the screen of WarpEngine.)

Doing so may cause Amplifier Unit failure and the unit may not start up successfully.

# Error Message List

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For information about Interface Unit and Amplifier Unit error messages, refer to the instruction manuals.

## At Startup

### Realtime Clean Air Monitor is already running.

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Realtime Clean Air Monitor is already running, so another Realtime Clean Air Monitor cannot start up.

Use the Realtime Clean Air Monitor that is already running.

### Cannot connect to the Interface Unit.

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An Interface Unit (ZN-SF11 or ZN-SF12) is required when Realtime Clean Air Monitor is used. Realtime Clean Air Monitor cannot connect to older Communication Interface Units for ZX (ZX-SF11 and ZJ-SF11).

Check the items shown below.

- **Is power being supplied to the Amplifier Unit and Interface Unit?**
- **Are the operation mode switches of the Amplifier Unit and Interface Unit set to RUN mode?**
- **Are the Amplifier Unit and Interface Unit properly connected?**
- **Does Realtime Clean Air Monitor start up after power is supplied to the Amplifier Unit?**

Realtime Clean Air Monitor can start up even when not connected to the Interface Unit (in Offline mode).

### The software shown below is not up-to-date.

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The software in the unit displayed is not up-to-date.

Start up the warp engine and update the software.

(Realtime Clean Air Monitor attempts to start up in this state, but it sometimes does not start up properly.)

### The number of connected Amplifier Units exceeds the maximum number allowed.

---

The number of connected Amplifier Units exceeds the number secured by the Interface Unit (10 units). Reduce the number of connected Amplifier Units to 10 or less, and restart Realtime Clean Air Monitor.

## **Reading (writing) of the setting file failed.**

---

Reading (writing) of the Realtime Clean Air Monitor setting file at startup may have failed.  
Use [**Control Panels**] - [**Add/Remove Programs**] to delete "Realtime Clean Air Monitor", and perform installation again.

## **There is an error with communication port settings./ The current communication port (COM\*) is not valid.**

---

The target communication port does not exist on the PC, or it is being used by another application.  
Specify a different communication port, or quit the application that is using the communication port.

## **The communication port cannot be opened. Quit the application that is using the communication port, and restart.**

---

It is possible that the target communication port is being used by another application.  
Quit that application and restart Realtime Clean Air Monitor.

## **Check the operation mode.**

---

The operation mode of the Interface Unit or Amplifier Unit is not RUN.  
Set the operation mode to RUN mode.

## **Common**

### **No value has been set.**

---

No value is set in the numerical value input box.  
Set a value.

### **The file to overwrite might be in use by another program.**

---

The file to save as setting data, waveform data, or logging data is being used by another software program.  
Quit the other application using the file and save again, or save the file using a different name.



## **There is an error with the decimal point or number of digits.**

---

There is an error with the entered decimal point position or the number of digits.  
Enter a numerical value with the specified format (5 digits with decimal point).

## **Values other than numerical values cannot be entered.**

---

Characters other than numerical values have been entered in the numerical value input box.  
Enter a numerical value.

## **A communication error occurred.**

---

Check the items shown below. If this message is shown, click the [OK] button to retry.  
If the communication error cannot be removed, click the [Cancel] button to quit Realtime Clean Air Monitor.

- **Is the Interface Unit properly connected?**
- **Is the RS-232C cross cable properly connected?**

## **The input range is from XXX to YYY./ The entered value is outside the range.**

---

The value entered in the numerical value input box is outside the specified range.  
Re-enter values that are between the minimum and maximum values shown in each window.

## **The path cannot be found.**

---

The path of the folder specified on the PC cannot be found.  
Enter a proper folder path.

## **The file name above is invalid.**

---

Characters that cannot be used as a file name are specified.  
Specify a different file name.

## **The data to save does not exist.**

---

The waveform cannot be saved because it does not exist.  
Perform the waveform save operation after obtaining the waveform.

## Graph Logging

### Failed to receive data from the Interface Unit.

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The data display key was pressed, but the data to display does not exist.  
Perform the data display operation after obtaining the waveform.

### The specified data was not generated.

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The type of data specified for logging was not generated within the specified time period.

### The input range is from 00:00:01 to 24:00:00.

---

The time that can be specified at logging execution is between "1 second" and "24 hours".  
Specify the time period within the time range above.

### File format is different.

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The file format at the file read is different.  
Select the file of the correct format.

## List of Particle Sizes

The particle size to be measured differs by the head of the connected air particle sensor.  
Check the following list of particle sizes.

	<b>ZN-PD03</b>
<b>Large particle</b>	1.0
<b>Medium particle</b>	0.5
<b>Small particle</b>	0.3

(Unit:  $\mu\text{m}$ )