

# OS-2000 series Simple Operation Manual

## ■ Operation flow

- Installation
- Start of the OS-2000 series
- Import data file
- Time-axis waveform display
- Cursor display
- Overlay of time-axis waveform
- Data range selection
- Time waveform playback
- Statistical processing
- Window docking
- Store the project file

# Installation

1. The OS-2000 Installer screen at right is appeared when you insert the installation CD to the PC.

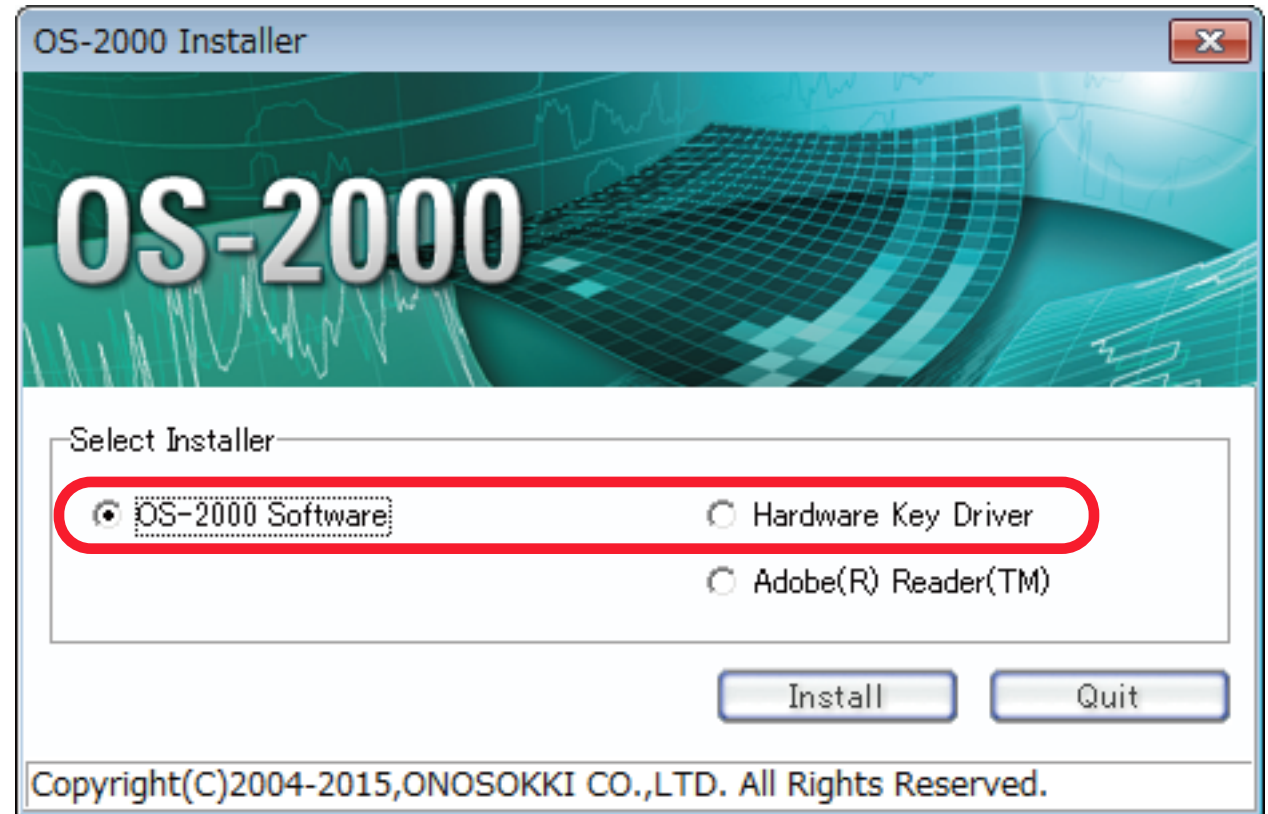
- **OS-2000 Software**

Install the OS-2000.

The 8 digits of serial number (password) is required at this time. The serial number is indicated in the back of the DVD case. Installation manual is attached to the DVD case.

- **Hardware key Driver**

It is necessary for starting OS-2000.



2. The icon of the OS-2000 is displayed on the desktop screen when installation is completed.

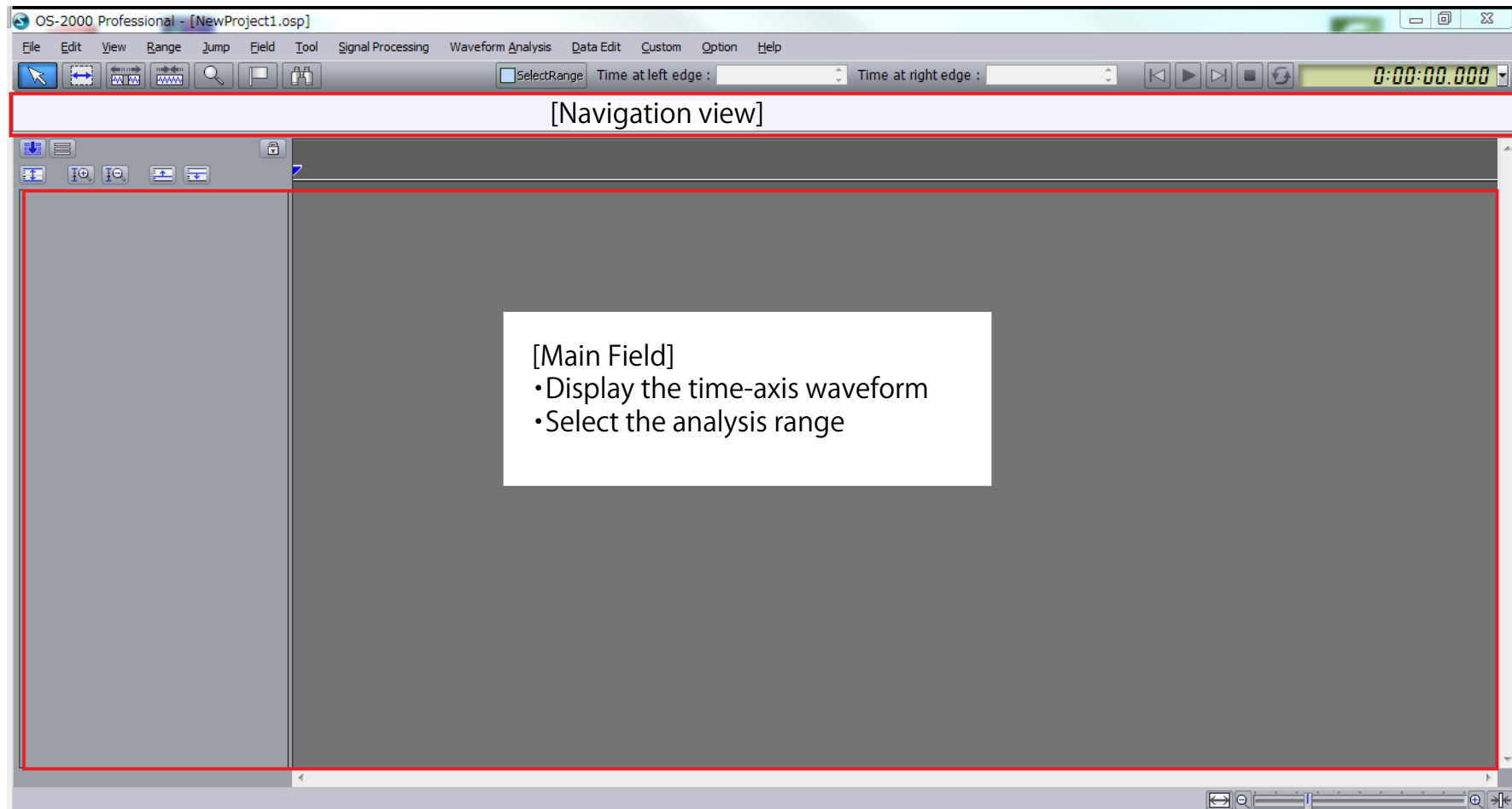


3. Insert the hardware key to the PC and start the OS-2000.

# Start of the OS-2000 series

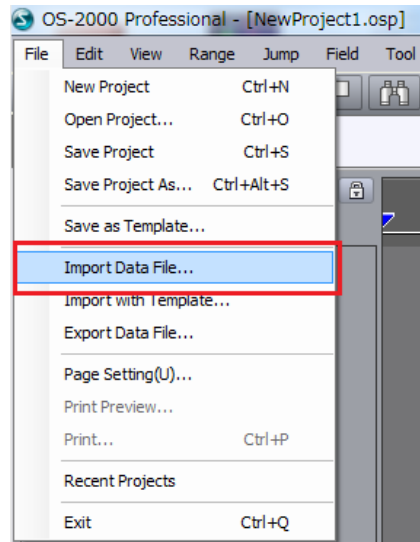


Double click the icon of the OS-2000 series on the desktop and start the software.



# Import data file

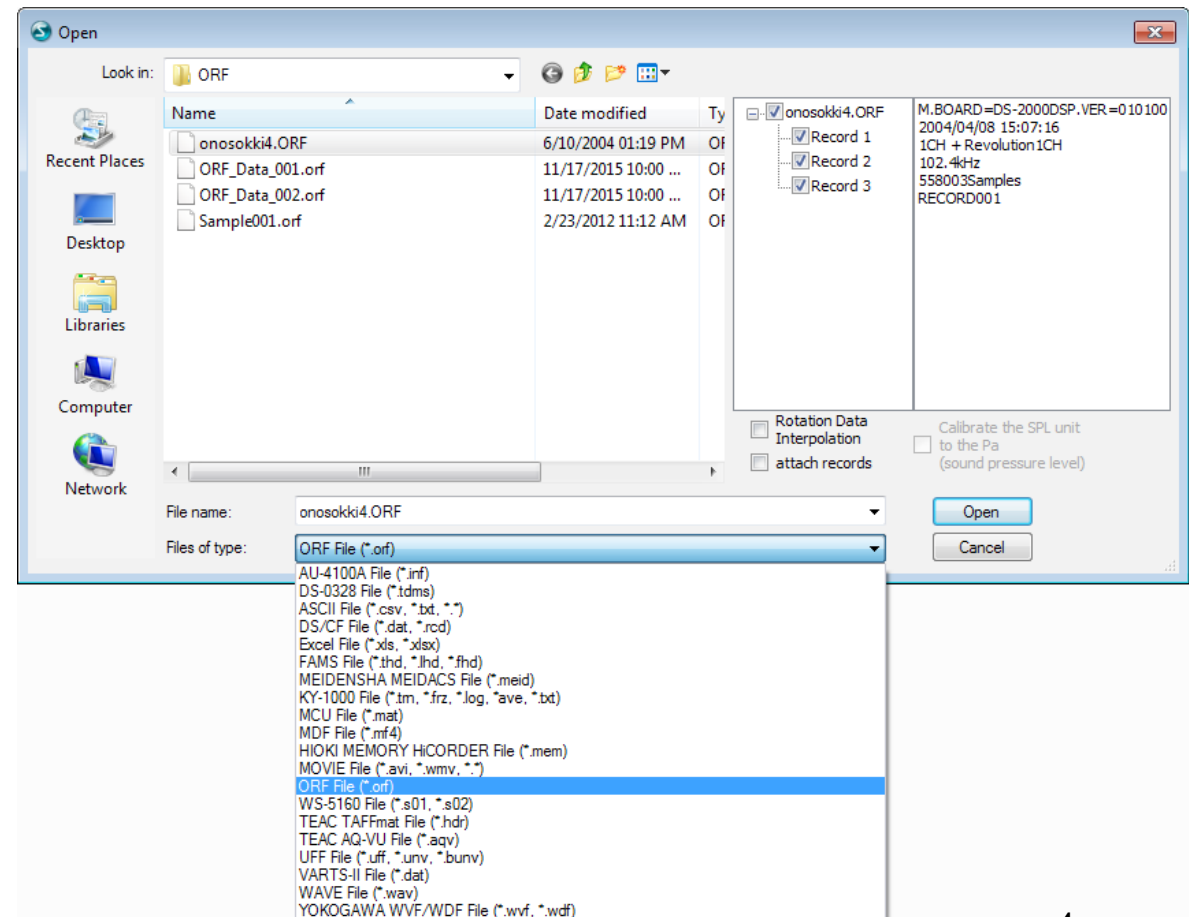
1. Select the [Import Data File...] from the file menu on the menu bar.



2. Select the type of the file to be analyzed.

\* If the file type and extension do not match, the file you want to select will not be displayed.

The ORF is selected as a file type in here, but please select WAVE or CSV file depending on the data type.



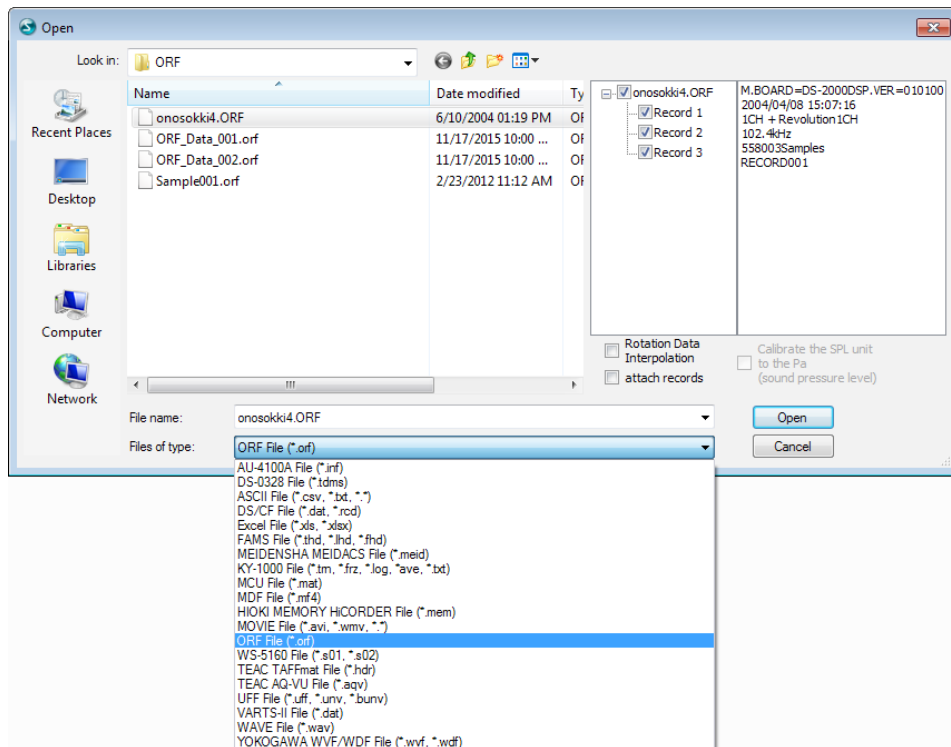
[Type of files to be imported to the OS-2000]

AU-4100A File (\*.inf)  
 DS-0328 File (\*.tdms)  
 ASCII File (\*.csv, \*.txt, \*\*\*)  
 DS/CF File (\*.dat, \*.rct)  
 Excel File (\*.xls, \*.xlsx)  
 FAMS File (\*.thd, \*.lhd, \*.fhd)  
 MEIDENSHA MEIDACS File (\*.meid)  
 KY-1000 File (\*.trn, \*.frz, \*.log, \*.ave, \*.txt)  
 MCU File (\*.mat)  
 MDF File (\*.mf4)  
 HIOKI MEMORY RECORDER File (\*.mem)  
 MOVIE File (\*.avi, \*.wmv, \*\*\*)  
 ORF File (\*.orf)  
 WS-5160 File (\*.s01, \*.s02)  
 TEAC TAFFmat File (\*.hdr)  
 TEAC AQ-VU File (\*.aqv)  
 UFF File (\*.uff, \*.unv, \*.bunv)  
 VARTS-II File (\*.dat)  
 WAVE File (\*.wav)  
 YOKOGAWA WVF/WDF File (\*.wvf, \*.wdf)

# Import data file (CSV file)

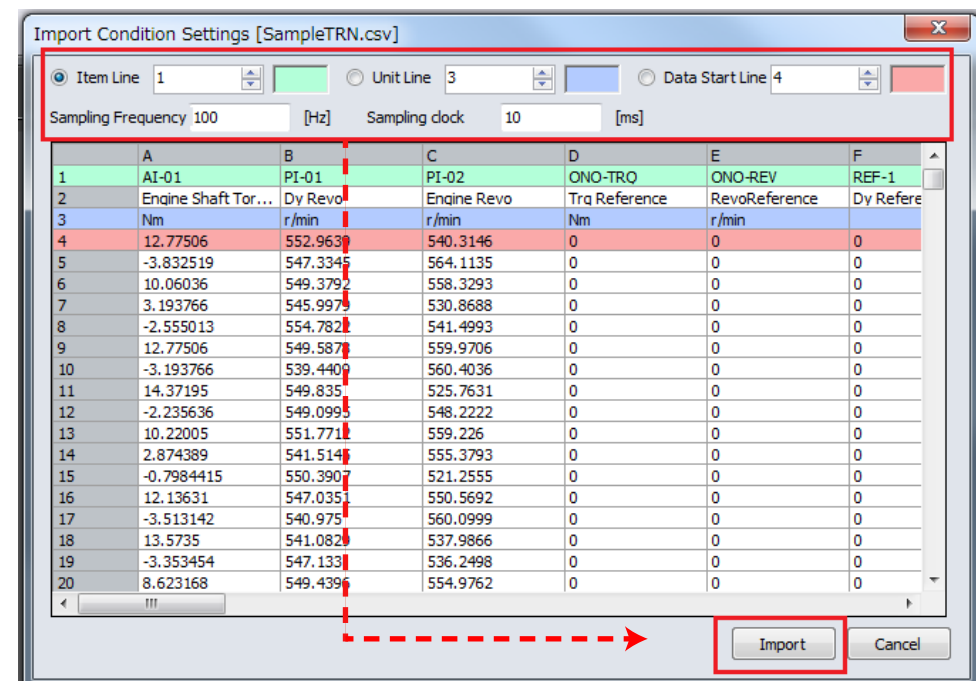
Setting of item line, data line and sampling frequency are necessary for the CSV file.

1. Select the file type: ASCII file (\*.csv, \*.txt, \*.\*).



2. Select the item line, unit line, and data start line.

3. Set the sampling frequency or sampling clock.



\* 1 to 100 lines of data can be displayed on this screen. 1000 lines or more data is not displayed but loading is performed.

# Import data file (3)

File is displayed on the data manager screen when the data file is imported.  
Item name is listed when select the file.

The screenshot shows the OS-2000 Professional software interface. The main window is titled "OS-2000 Professional - [NewProject1.osp]". The menu bar includes File, Edit, View, Range, Jump, Field, Tool, Signal Processing, Waveform Analysis, Data Edit, Custom, Option, and Help. The toolbar contains various icons for file operations and analysis. The Data Manager window is open, showing a list of imported files. The selected file is "XN\_Sample\_EXT (Rec01).orf (Rec01)". The File Information section displays the following details:

File Name	C:\Users\Nakajima\Down
Sampling Frequency	51200
Color	6, 24, 150
Delay Time	0:00:00.000000
Section Link	OFF
FileMarker	ON

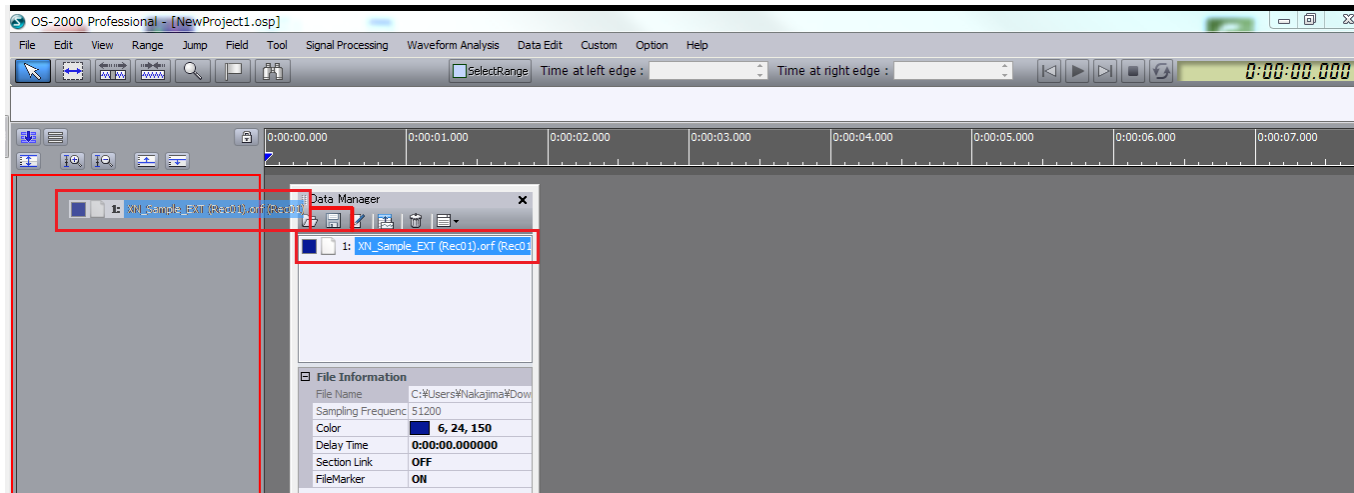
Below the File Information section is a search bar and a table of items:

File	No.	Name	Unit	Image
1	1	Channel...	Pa	
1	2	Channel...	m/s2	
1	3	Channel...	r/min	

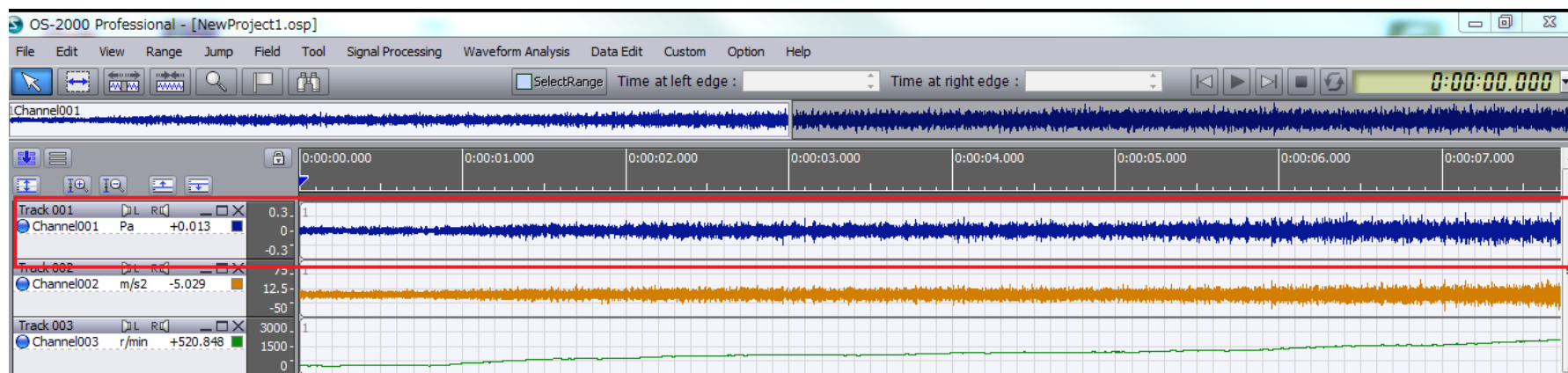
Two red arrows point to the Data Manager window. The first arrow points to the file name "XN\_Sample\_EXT (Rec01).orf (Rec01)" with the text "[File name] All imported file names are indicated." The second arrow points to the item name "Channel..." in the table with the text "[Item name] Multiple items are displayed depending on the file."

# Time-axis waveform display

Drag and drop the file on the data manager to the track display area of the main field.



When drag the file to the track display area, the color of the frame line is changed in red. Drop the file in this state.



Time-axis waveform is displayed.

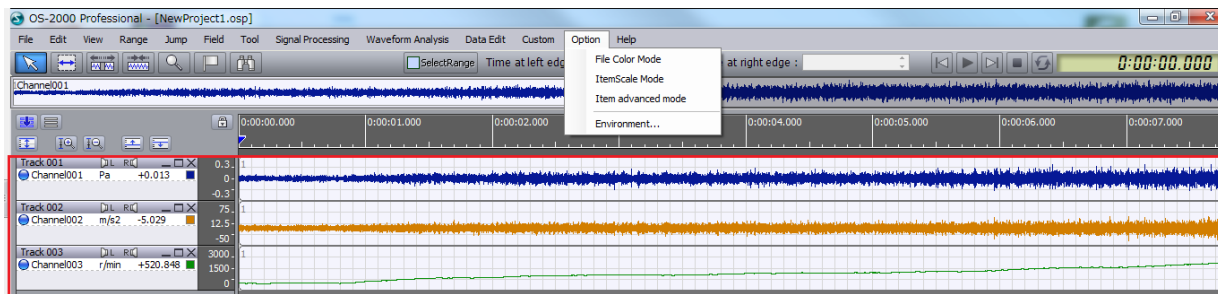
# Time-axis waveform display (change of the waveform color)

For displaying multiple files:

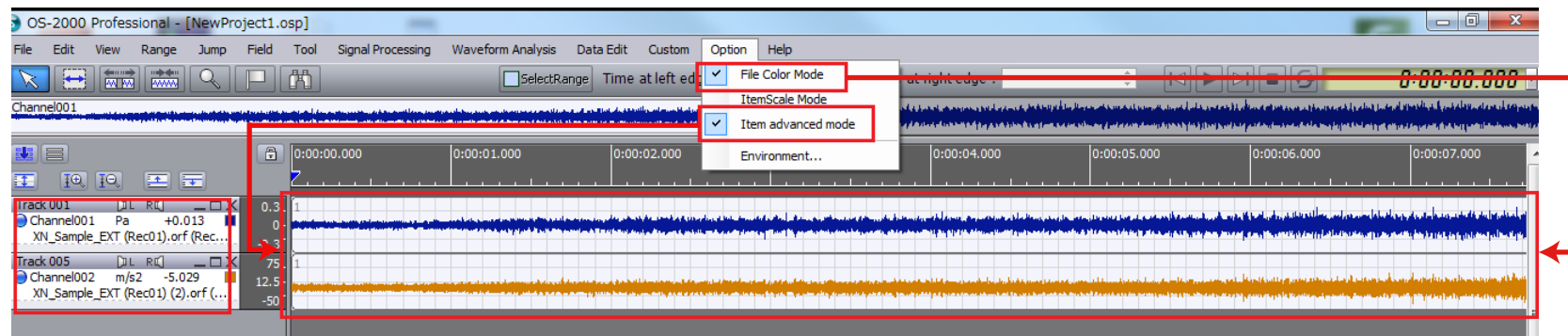
It becomes easy to identify the time-axis waveform by putting check marks on the [File Color Mode] and [Item Advanced Mode] on the option menu.

[Default] color of the waveform:

1ch...blue, 2ch...orange, 3ch...green



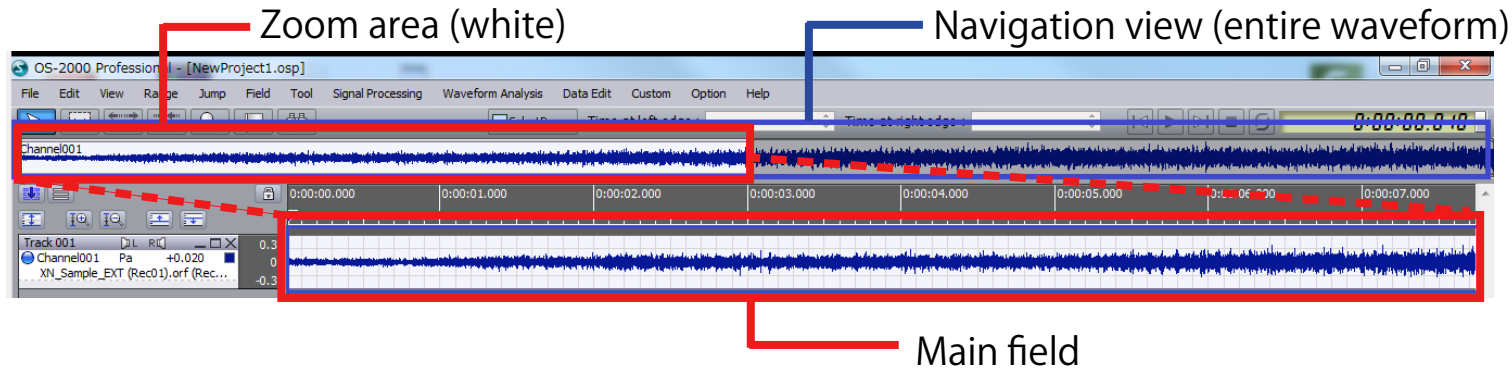
- File color mode: ON - The color of waveform is changed in each file
- Item advanced mode: ON - Display the file name



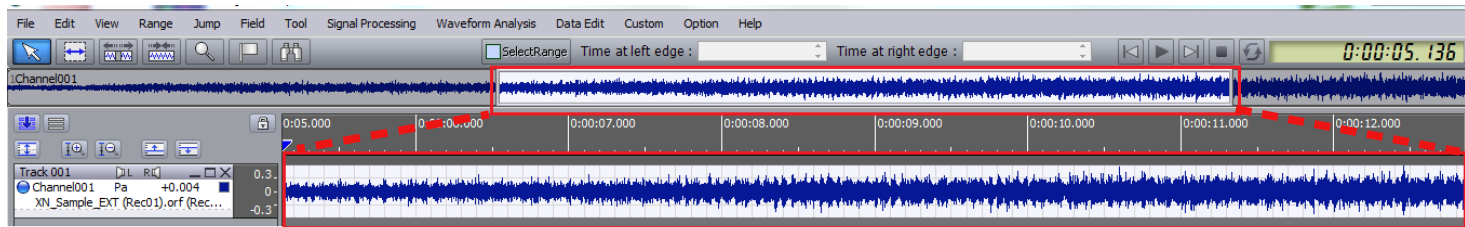


# Time-axis waveform display (Navigation view)

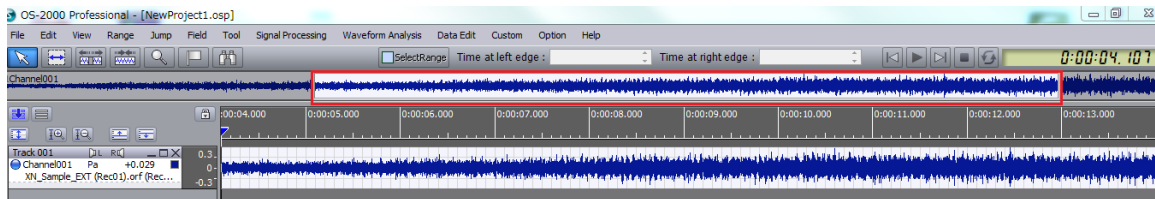
Navigation view is displaying the standard time-axis waveform (entire waveform)  
The zoom area (white) is enlarged and displayed on the main field.



Zoom area can be moved by dragging the mouse.

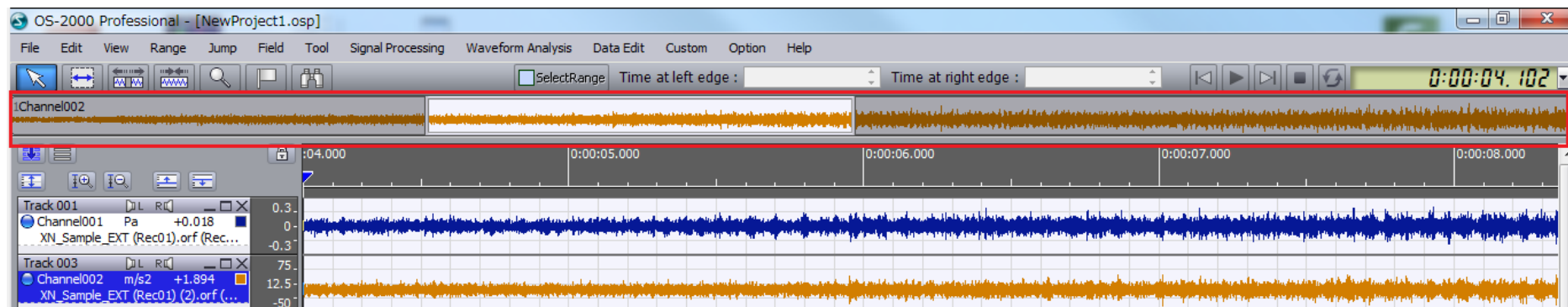
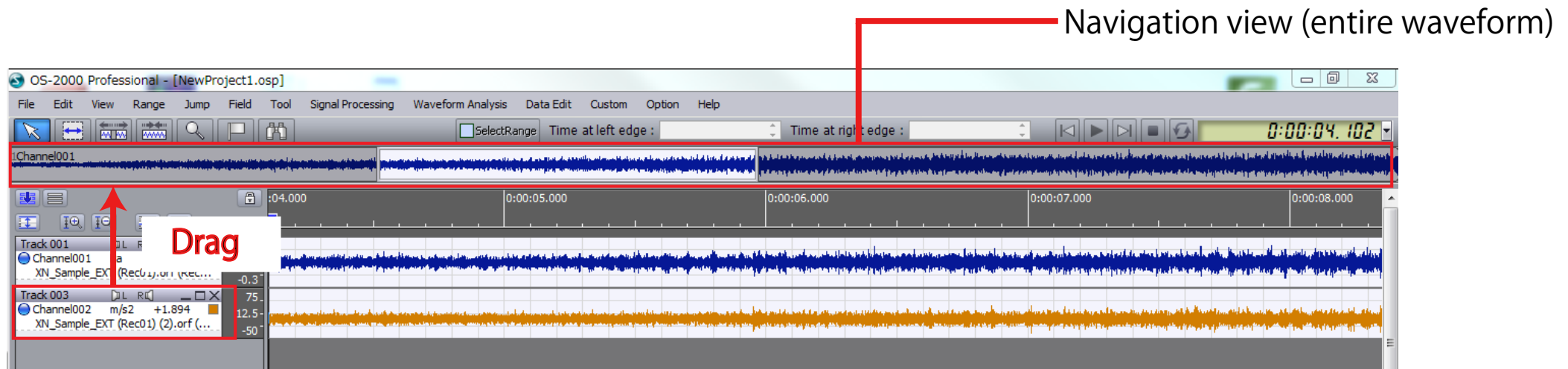


The display area of the waveform in zoom area can be increased or decreased by mouse operation.



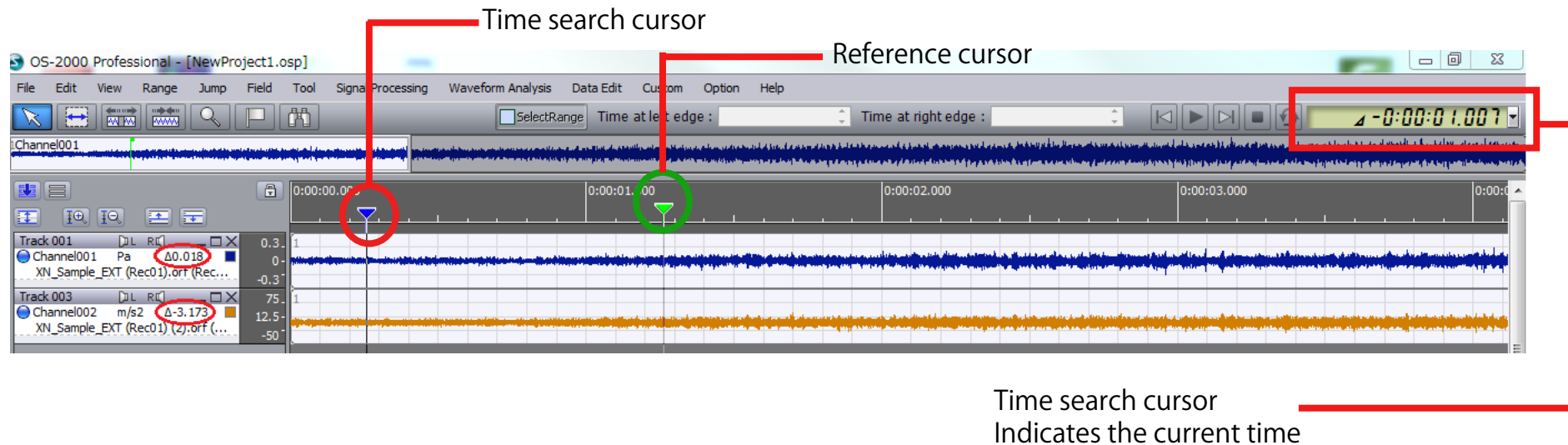
# Time-axis waveform display (Waveform switching)

The reference time-axis waveform which is displayed on the navigation view can be changed.  
The color of the frame line of the area becomes red when drag the item of the main field to the navigation view. Drop it at this state.

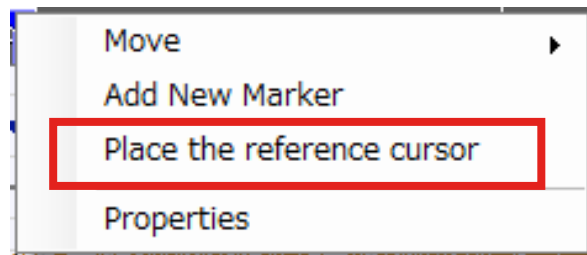


# Cursor display (search cursor, reference cursor)

The value at the position of time search cursor (▼) is displayed on the track.  
Cursor is moved left and right.

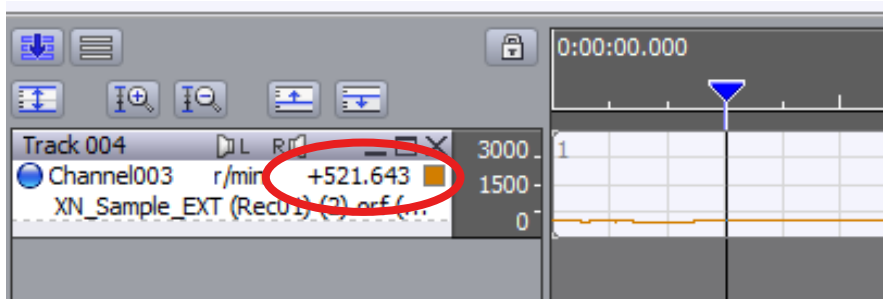


When right click the time search cursor (▼) and select [Place the reference cursor], the reference cursor (▼) is appeared.

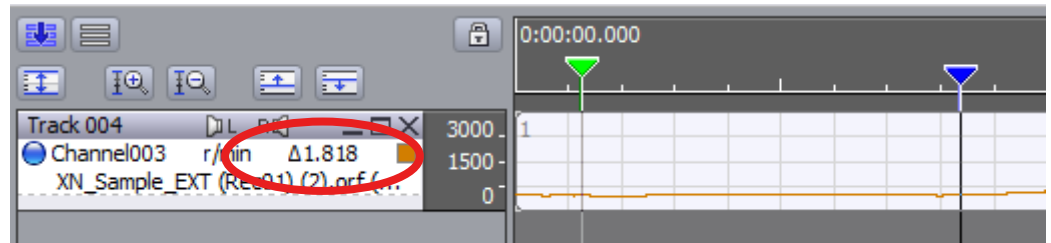


# Cursor display (Display the difference between two points)

Display the position of time search cursor (▼).



The difference ( $\Delta Y$ ) between two points is displayed when place the reference cursor (▼). You can check the  $\Delta X$  with time display.



You can check the cursor (▼) value by opening the database window of the display menu.

Data Base Window

Display the item outside the field

Channel	3
Item Name	Channel003
Unit	r/min
0:00:00.839	515.151
0:00:00.839	515.1506
0:00:00.839	515.1502
0:00:00.839	515.1498
0:00:00.839	515.1494
0:00:00.839	515.149
0:00:00.839	515.1486
0:00:00.839	515.1483
0:00:00.839	515.1478
0:00:00.839	515.1475
0:00:00.839	515.147
0:00:00.839	515.1466
0:00:00.839	515.1462
0:00:00.839	515.1458

XN\_Sample\_EXT (Rec01) (2).orf (Rec01)

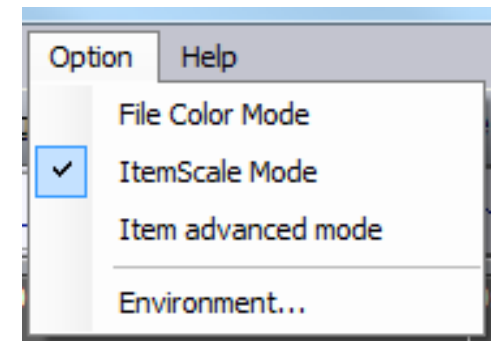
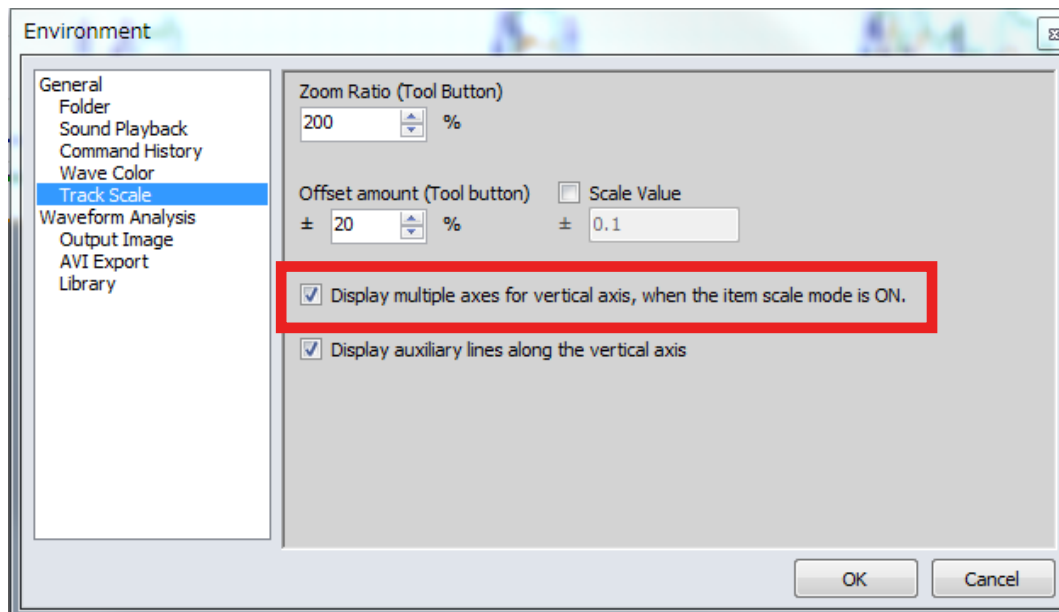
# Overlay of time-axis waveform

Y-axis can be displayed as multiple axes when tracks are overlaid.



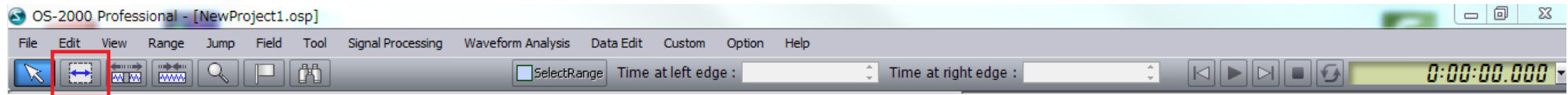
Setting is necessary at the Environment setting screen in the option menu. Turn ON the “Display multiple axes for vertical axis, when the item scale mode is ON”.

Item Scale Mode: ON



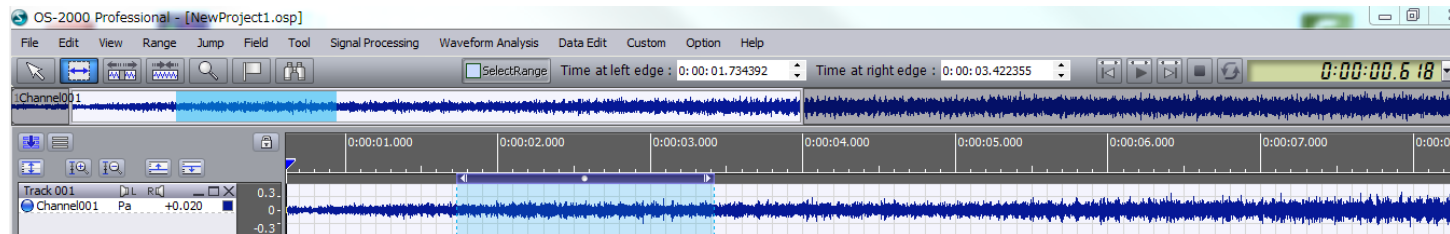
# Data range selection (1)

Select the waveform range that you want to be analyzed.



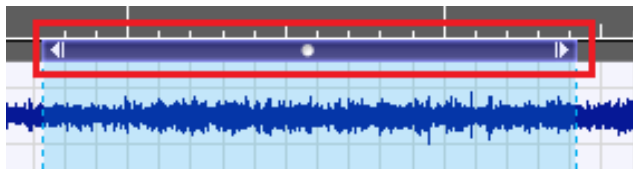
## Range selection

Move the cursor to the start point to be selected and hold the left button of the mouse. After dragging the cursor to the end point of the range and release the left button of the mouse, the frame color of the area you selected is changed to light blue.



## Move

Left click the red frame area and move it to left or right.



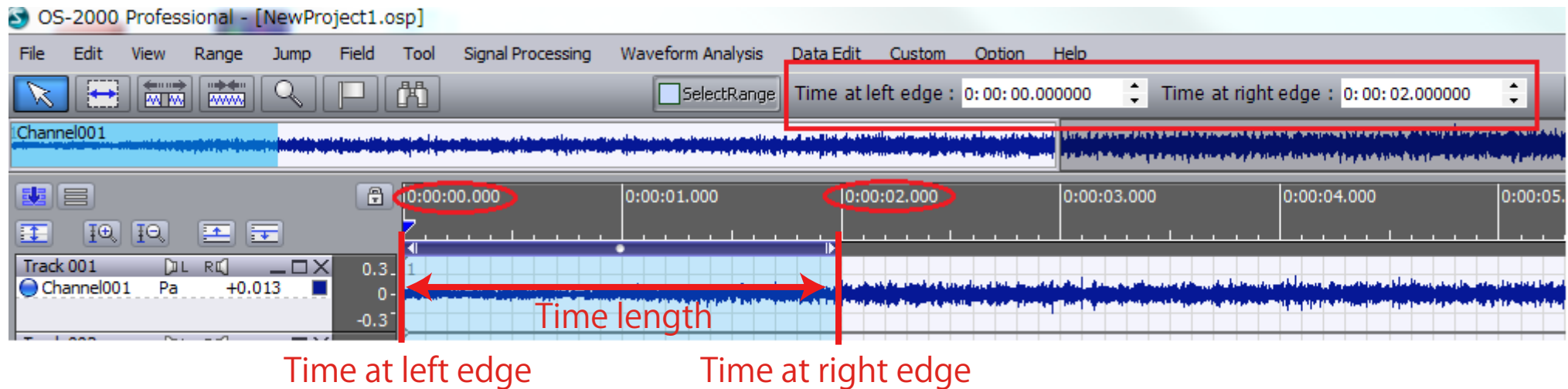
## Change range (widened or shortened the frame)

The frame width can be changed when the cursor is changed to arrow ( $\Leftrightarrow$ ) by moving the mouse close to the red circle.



# Data range selection (2)

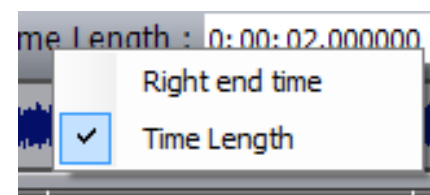
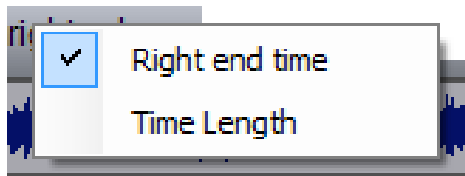
Display the selected range area in time.



Left end time Indicate the time at left or right edge of selected range.

Right end time

Time Length When click the [Time at right edge], you can switch to [Time length].

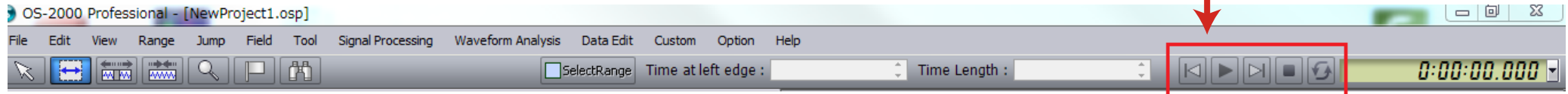


# Time waveform playback

Sound (vibration) can be playback.

Please check the volume of the speaker before playback.

Playback button

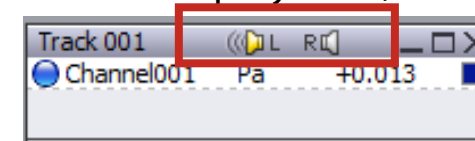


Start playback



Playback the sound.

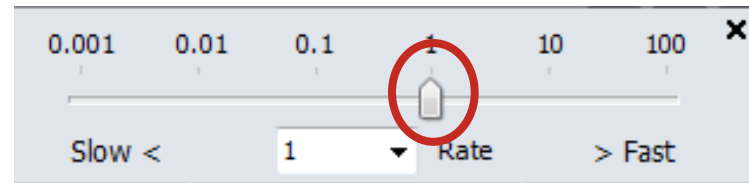
\*Click the speaker mark to turn it ON before playback. (yellow)  
Turn ON/OFF of the speaker mark is possible while playback, and  
playback of another track is possible.



Start playback + right click



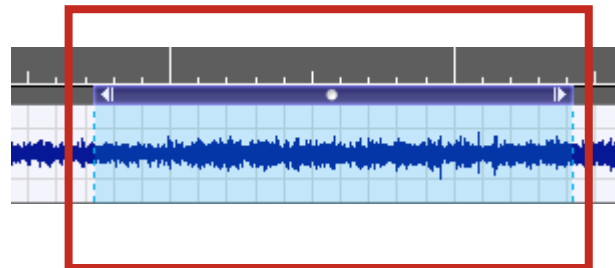
Control the playback speed. Default value: 1 (normal speed)



Loop playback



Continuously playback the sound in the selected area.





# Statistical Processing

Display the statistical indicator of the specific range of an item such as total value, average value or max. value. The statistical value can be obtained in the selected range.

1. Open the [Statistical Processing] in the [Custom] menu. Drag the item to the [Statistical Processing] screen.
2. Click [Execute] button and display the statistical values of data which range is selected.

1. Drag

2. Click execute button

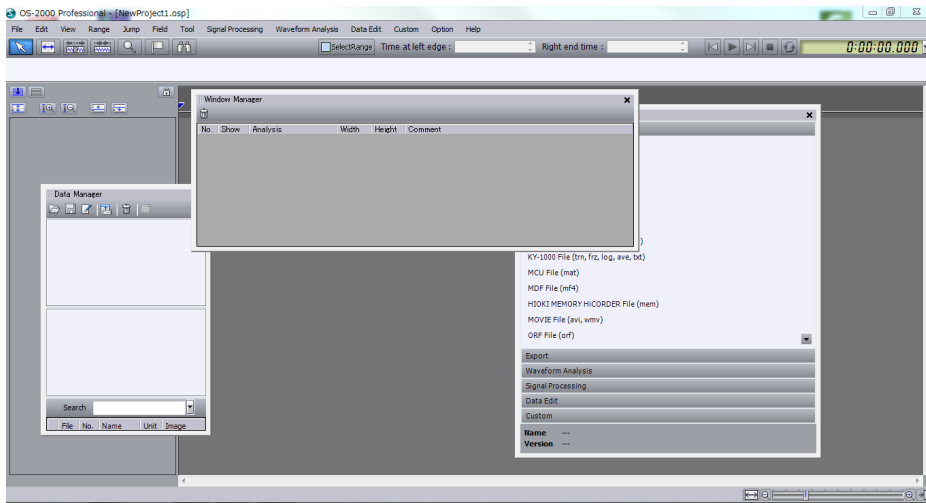
Data which range is selected

Item Name	Samples	Leftmost Value	Rightmost Value	Difference Value	Sum	Average Value	Median	Maximum value-Minimum value	Maximum value	Minimum value	Standard Deviation
Channel001	53000	-0.0401552	-0.120105	-0.0799502	732.42	0.00476836	0.00441237	0.497461	0.272693	-0.224768	0.0500865

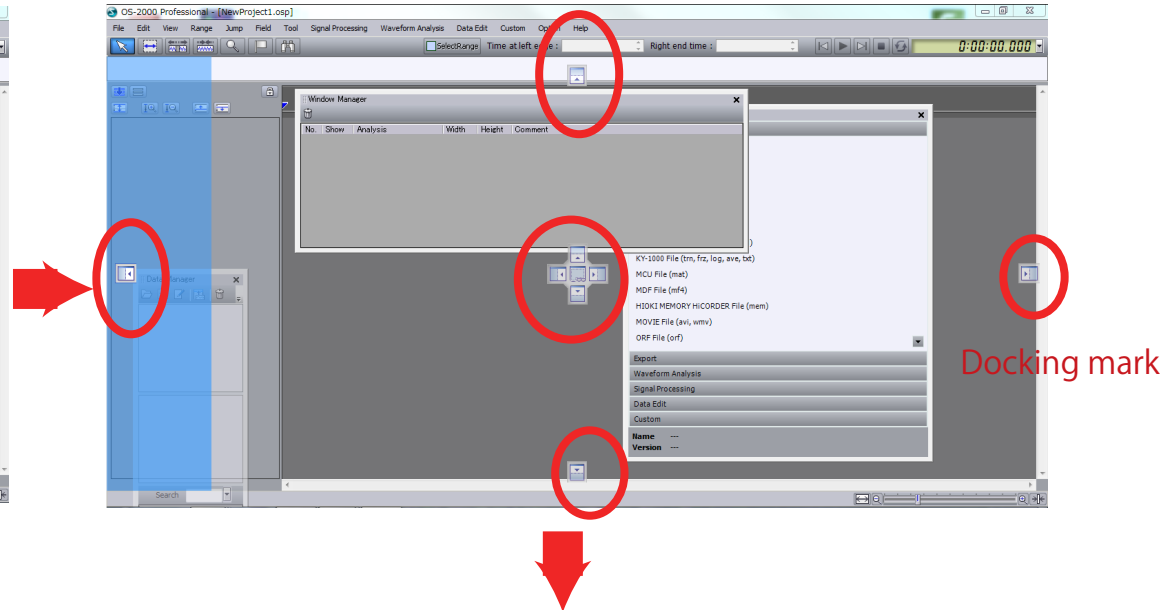
Display item:  
Number of samples (number of data), Difference value, Sum, Average value, Median, Maximum value-Minimum value, Standard deviation, RMS value, Maximum value, Minimum value, skewness, kurtosis, Waveform, Waveform factor, Crest factor, Area

# Window docking

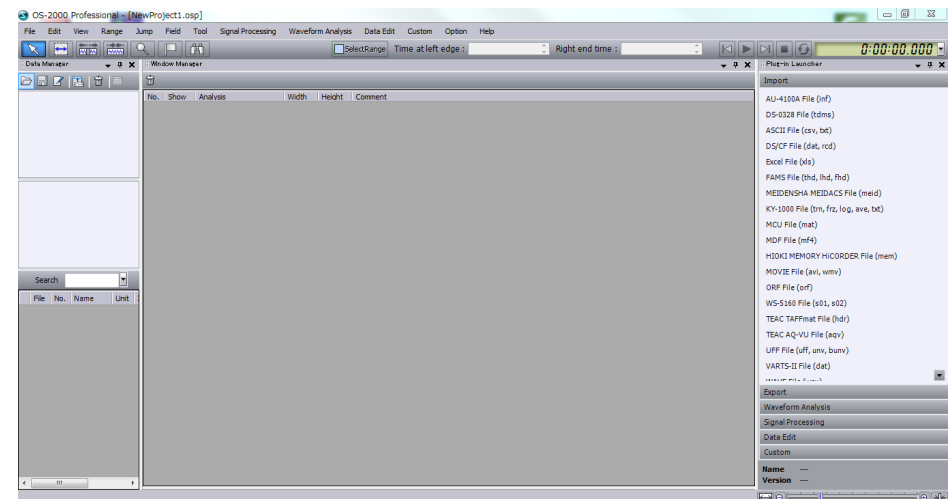
When there are multiple menu windows on the screen, you can dock them to make it easier to see. The docking mark is appeared when you move the menu window. The blue frame is appeared when you move the mouse close to the arrow. The window is fixed to this blue frame area.



Windows are scattered on the screen.



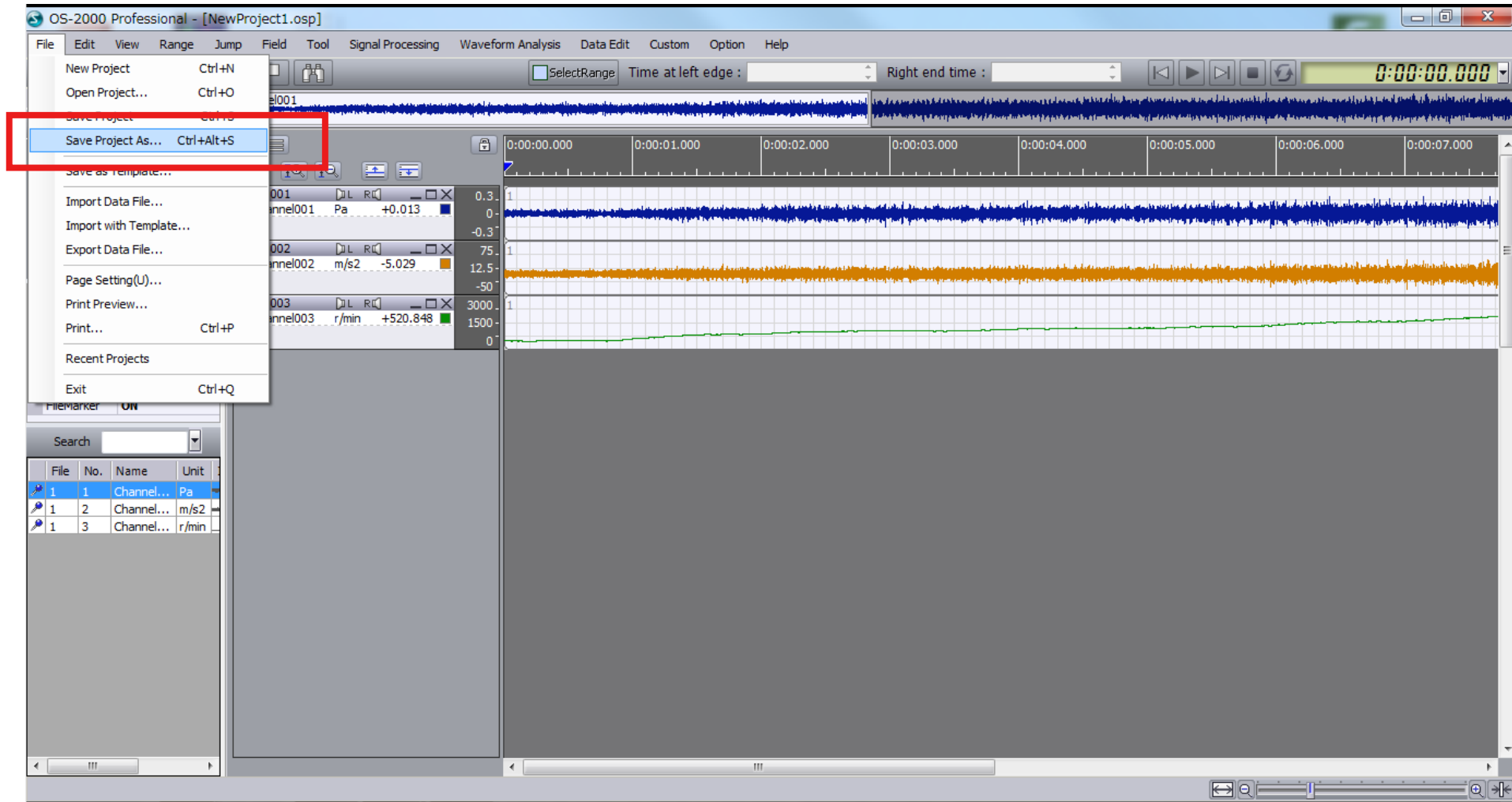
Docking mark



Windows can be fixed.

# Store the project file

Current OS-2000 state can be stored as a project file. (Extension: osp)  
Select [Save Project As...] in the File menu and store it.



If you want to continue working on the project next time, select the stored file name from the [Open Project] in the File menu.