

Digital Oscilloscope DS-8000

**Viewer Application
Instruction Manual**

IWATSU

Revision History

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1 Overview

This application allows you to view and analyze waveforms saved to a USB memory stick or captured using the remote function of the digital oscilloscope DS-8000 on a Windows PC.

2 Operating Environment

OS	Microsoft Windows 10 64bit Edition Microsoft Windows 11
Processor	Inter Core Processor or higher is recommended
Memory	Minimum 8GB, 16GB or more recommended
Monitor Resolution	1920x1080 or higher is recommended (Supports resolutions up to 3840x2160)
Interface	USB port, LAN port*
Storage space required	Minimum 5GB
Digital Oscilloscope DS-8000 firmware version	Version 7.24

* A LAN port is required if the remote connection is performed via LAN.

3 About the software

The installer includes the following two software.

Software	Version
DS-8000 Viewer	7.22
Plug-in DS-821	3.08

4 Features

This section explains the available functions of the DS-8000 Viewer.

4.1 Viewing and analyzing setup data with waveforms

Recall setup data with waveforms saved in the DS-8000 digital oscilloscope, and view and analyze the waveforms.

4.2 Drag and Drop Files

Read out waveforms without opening the Save/Recall dialog.

You can call up a waveform by dragging a file from Explorer or the desktop and dropping it onto the DS-8000 Viewer. Callable files have the extensions .wfm and .set.

4.3 Shortcut key

DS-8000 Viewer has shortcut keys to operate the application without using a mouse.

Table 4.1: List of shortcut keys

Operation	Shortcut key	Description
Switching Screen Modes	[Ctrl] + [M]	Switch between full screen and maximized window
ZOOM IN	[Ctrl] + [+]	Expand voltage axis range
ZOOM OUT	[Ctrl] + [-]	Reducing voltage axis range
Offset (+direction)	[Ctrl] + [↑] ¹	Increase the offset
Offset (-direction)	[Ctrl] + [↓] ¹	Decrease the offset
Set the offset to 0V	[Ctrl] + [O]	Set the offset to 0V
Horizontal (Enlarge)	[Shift] + [→] ¹	Expanding the time axis range
Horizontal (reduce)	[Shift] + [←] ¹	Reducing the time axis range
Set Delay to 0s	[Ctrl] + [D]	Set the delay to 0s
Delay(+direction)	[Ctrl] + [→] ¹	Add the delay
Delay(-direction)	[Ctrl] + [←] ¹	Reduce the delay
Turning the operation panel display on and off	[Ctrl] + [P]	Show or hide the operation panel.
Save to file	[Ctrl] + [S]	Save to a file

¹ Indicates the cursor keys on the keyboard.

Operation	Shortcut key	Description
CH selection and tracing	[Ctrl] + [num] ²	Showing, hiding or selecting channels.
MATH selection and tracing	[Ctrl] + [Fn] ³	Showing, hiding or selecting Math
BUS selection and tracing	(none)	(none)
Switch Main Screen	[Ctrl] + [Shift] + [1]	Selecting the main screen
Switch ZOOM1 Screen	[Ctrl] + [Shift] + [2]	Showing, hiding or selecting ZOOM1 screen
Switch ZOOM2 Screen	[Ctrl] + [Shift] + [3]	Showing, hiding or selecting ZOOM2 screen
①knob (+direction)	[Alt] + [2]	Same as turning knob ① clockwise
①knob (-direction)	[Alt] + [1]	Same as turning knob ① counterclockwise
②knob (+direction)	[Alt] + [4]	Same as turning knob ② clockwise
①knob (-direction)	[Alt] + [3]	Same as turning knob ② counterclockwise

4.4 Operation Panel

Display and use the operation panel on the digital oscilloscope DS-8000.

The operation panel can be displayed in one of the following ways:

1. Turn on the Operation window switch in the Operation tab of the Utilities window.
2. Press the shortcut key [Ctrl] + [P].

The knobs can be operated by clicking the mouse wheel or the buttons directly below the knobs. You can also use the Ctrl key in combination to operate the knobs quickly.

4.5 Full Screen

The DS-8000 Viewer can be displayed in full screen in the following way:

1. Click Full Screen from Menu.
2. Press the shortcut key F11.

You can exit full screen mode by repeating the above steps.

² num = numeric key 1 to 8 where represents the channel number

³ Fn = function key F1 to F8 where n represents the Math number.

4.6 Remote Function

The DS-8000 Viewer can use the following functions remotely.

How to use each function is explained in section "[6 Remote](#)".

4.6.1 Waveform acquisition

Display the waveforms of the digital oscilloscope DS-8000 with the DS-8000 Viewer without using a USB memory.

4.6.2 Obtaining hard copies

Display the hard copies of the digital oscilloscope DS-8000 on the DS-8000 Viewer without using a USB memory.

4.6.3 File Transfer

Transfer files in the internal memory of the digital oscilloscope DS-8000 or USB memory to a PC.

4.6.4 Remote Control

Using the DS-8000 Viewer, you can remotely control the digital oscilloscope DS-8000, change the settings of the digital oscilloscope DS-8000, and acquire waveforms.

The following functions cannot be used with the remote control:

- Sequence and Roll in Sample mode
- Average in Acquisition mode
- AUTO in the trigger mode
- Pass / Fail output from AUXOUT terminal.

4.7 List of Functional Restrictions

The DS-8000 Viewer has the same functions as the DS-8000 digital oscilloscope, but the following functions are available only when the remote control is enabled.

- Channel
 - Coupling
 - Bandwidth
 - Probe Attenuation
 - Digital Filter

- Horizontal
 - Sample mode
 - Acquisition mode
 - Preference
 - Max. memory length
 - Sampling rate

- Trigger
 - All functions

- Auto setup
 - All functions

- Pass / Fail
 - All functions

- Trigger
 - All functions

The following functions are always unavailable:

- Utilities
 - Change the date and time
 - Beep sound
 - Calibration

5 Installation

To install the DS-8000 Viewer, perform the following:

Note:

- If the DS-8000 Viewer is installed already, please uninstall it before installing it.
- The installation should be performed by a user with administrator privileges.

1. Double Click the “installer.exe”
2. When the message “Setup – IWATSU DS-8000 Viewer” appears, press [Next] button.
3. When the message “Select Components” appears, check the plug-in you need and press [Next] button.
4. When the "License Agreement" message appears, read the license agreement and, if you agree to the terms of the agreement, click [I accept the license] and then click the [Next] button.
5. When the message "Start Menu shortcuts" appears, enter the folder name you want to display in the Start menu shortcuts and click the [Next] button.
6. When the "Ready to Install" message appears, check the amount of disk space the application will use, and if OK, click the [Install] button.
7. When the message "Do you want to allow this app to make changes to your device?" appears, make sure the publisher is "IWATSU ELECTRIC CO., LTD." and click the [Yes] button.
8. When the message "Completing the IWATSU DS-8000 Viewer Wizard" appears, click the [Finish] button.

6 Remote

6.1 Remote connection methods

This section describes the procedure for remote connection using the DS-8000 Viewer.

Note:

- To connect remotely using the USB port, you need the Scope Controller (Version 1.11 or later). Please download it from the following URL.
<https://www.iwatsu.co.jp/tme/download/software/>
- The DS-8000 Viewer and the digital oscilloscope DS-8000 model must match, and the digital oscilloscope DS-8000 version must be 7.23 or later.

[Digital Oscilloscope DS-8000]

1. Select "Remote" from Menu
2. Select "USB" from Interface
3. Enter the IP address of the digital oscilloscope DS-8000 in Address.
4. Press the [Apply] button.

[PC with the DS-8000 Viewer installed]

1. From the Control Panel, go to "Network and Internet" → "Network and Sharing Center" → "Change adapter settings."
2. Right-click on the corresponding Ethernet and open Properties.
3. Click on Internet Protocol Version 4 (TCP/IPv4) and click on the Properties button.
4. Set the IP address and subnet mask.

[DS-8000 Viewer]

1. Start the DS-8000 Viewer and select Remote from Menu.
2. Enter the IP address of the DS-8000 to be connected and press the Connect button.

6.2 Waveform acquisition

DS-8000 Viewer can remotely capture waveforms from the digital oscilloscope DS-8000. The procedure is as follows:

1. Capture the waveform using the digital oscilloscope DS-8000.
2. Refer to "[6.1 Remote connection methods](#)" to remotely connect the DS-8000 Viewer and the digital oscilloscope DS-8000.
3. If you want to acquire multiple waveforms on the digital oscilloscope DS-8000, press the [Get all waveform] button; if you want to acquire only the latest waveform, press the [Get latest waveform] button.
4. The setup is the same as that of the digital oscilloscope DS-8000, and then the waveform is displayed on the DS-8000 Viewer.

6.3 Obtaining Hard Copies

DS-8000 Viewer can remotely obtain hard copies from the digital oscilloscope DS-8000. The procedure is as follows: Refer to "[6.1](#)

1. [Remote connection methods](#)" to remotely connect the DS-8000 Viewer and the digital oscilloscope DS-8000.
2. Press [Show hardcopy] button.
3. Hardcopy image window will appear.

If you want to save the hard copy you obtained to your PC, select Save As from the File menu at the top of the window.

6.4 File Transfer

DS-8000 Viewer can remotely transfer files from the internal memory of the digital oscilloscope DS-8000 or from a USB memory to a PC. The procedure is as follows:

1. Refer to "[6.1 Remote connection methods](#)" to remotely connect the DS-8000 Viewer and the digital oscilloscope DS-8000.
2. Press [Get file list] button.
3. When the File List window appears, check the files you want to transfer and click the [Get files] button.
4. When the Select Folder window appears, select the folder you want to save the file in. (The file name will be the same as the file name you retrieved.)

6.5 Remote Control

DS-8000 Viewer can remotely control the digital oscilloscope DS-8000.

Note:

- During remote control, waveform acquisition, obtaining hard copy, and file transfer functions are unavailable.
 - Do not operate the digital oscilloscope DS-8000 during remote control. This will prevent correct waveform acquisition.
1. Refer to "[6.1 Remote connection methods](#)" to remotely connect the DS-8000 Viewer and the digital oscilloscope DS-8000.
 2. In the Remote window, turn the Remote control switch to ON.

7 Plug-in

Customers who have purchased the plug-in can use it with the DS-8000 Viewer.

In addition, with the DS-8000 Viewer, the plug-in can be used even when not connected to a remote device (offline).

7.1 Installation

1. Refer to "[6.1 Remote connection methods](#)" to remotely connect the DS-8000 Viewer and the digital oscilloscope DS-8000.
2. Click the [Import] button from the Plugin tab in the Utilities window.
3. When the file dialog box appears, open the folder of the plug-in you want to import from "C:\Program Files\IWATSU\DS-8000 Viewer\Plugins" and select the Zip file.
4. Once the plug-in is imported, turn the Enabled switch to ON.
5. When the License Key dialog box appears, enter the license key listed on the "Software Entitlement Certificate" and click the [OK] button. (This is the same license key used for the digital oscilloscope DS-8000.)
6. Restart DS-8000 Viewer.

7.2 Restrictions

The following restrictions apply to using plug-ins with the DS-8000 Viewer:

1. When waveforms are acquired remotely, only waveforms acquired from a digital oscilloscope DS-8000 licensed with the DS-8000 Viewer can be used in the plug-in.
2. When recalling setup data with waveforms and using the waveforms in the plug-in, only waveforms saved in the DS-8000 digital oscilloscope licensed with the DS-8000 Viewer can be used.

8 Copyright and Disclaimer

- We provide no warranty whatsoever regarding this software.
- We are not responsible for any damages incurred as a result of using this software.
- The copyright of this software is owned by our company.

9 Trademarks

- Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and/or other countries.
- Intel and Intel Core are registered trademarks of Intel Corporation in the U.S. and other countries.

10 Changelog

Installer Version	Contents
Ver. 2.0.2	• Supports firmware version 2.10 • New release
Ver. 3.01	• Supports firmware version 3.09 • Optimize application windows to suit the display environment of your PC screen. • Operational issues fixed from Ver.2.02
Ver. 4.01	• Supports firmware version 4.05 • Math double operations • Reads waveform data acquired by an external trigger
Ver. 4.12	[Adding Remote functionality] • Waveform acquisition • Obtaining hard copies • Acquiring files in the DS-8000 internal memory
Ver. 5.01	• Supports firmware version 5.09 • Improved file retrieval process
Ver. 6.10	• Supports firmware version 6.08 • Adding Remote Control functionality • Adding Plug-in functionality
Ver. 6.12	• DS-821 Cursor operation bug fix
Ver. 7.01	• Supports firmware version 7.07 • Hard copy bug fixes • Fixed a bug in saving math waveforms
Ver. 7.21	• Supports firmware version 7.23 • Fixed a bug where Math, Measure, etc. with hidden channels set as Source did not work properly.
Ver. 7.22	• Supports firmware version 7.24 • The attached DS-821 has been updated to Ver.3.08.