Scope Data Management software

SV-512M-UH

User's guide

FNO.8742

Hitachi Denshi,Ltd

Contents

1. Prolog 1

2. Introduction 2
2.1 Contents 2
2.2 Operating environment 2
2.3 Installing the program 4

3. Operational outline 5
3.1 SV-512M-UH startup 5
3.2 Oscilloscope connection 5
3.3 Waveform access 5
3.4 Waveform observation and measurement 6
3.5 Waveform print output. 6
3.6 Waveform save and application 6
3.7 Oscilloscope setting changes 6
3.8 Saving and recalling oscilloscope settings . . . 6

4. Screen description 7
4.1 Waveform display 8
4.2 Panel settings 8
4.3 Measurement data 10
4.4 Cursor display 11

5. Menu description 12
5.1 File 12
5.2 Scope 13
5.3 View 13
5.4 Window 14
5.5 Option 14
5.5.1 Communication setup 14
5.5.2 Image. 16
5.5.3 Position of communicating message 16
5.6 Tool bar 16

1. Prolog

Thank you for purchasing **SV-512M-UH** scope data management software.

This software enables operation of either seven models of the Hitachi Denshi VC-5400 series oscilloscope (VC-5410, VC-5430, VC-5460, VC-5470, VC-5431, VC-5410(A) and VC-5430(A)) and two models of VC-58xx series oscilloscope (VC-5810, VC-5850)in conjunction with a personal computer. Data compiled by the oscilloscope can be used with Microsoft Windows Version 3.1 or Windows 95.

Following is a brief outline of the functions.

- Waveform data images can be saved in BMP, TIFF and PCX formats.

  → Waveform data images can then be used with word processing or other Windows-compatible software.

- Waveform data can be saved as ASCII text in formats such as CSV or Lotus 1-2-3 format.

  → Waveform data can then used with Windows-compatible tabulation software.

- Fundamental oscilloscope settings can be changed from the computer.

- Oscilloscope settings can be stored as PC files and used for again setting the oscilloscope.

The present document assumes prior knowledge of basic Windows operation. Users not yet familiar with Windows are requested to consult the appropriate texts regarding fundamental operations, such as using a mouse, windows and dialogs, opening and closing files, and other basic procedures.

2. Introduction

2.1 Contents

- **SV-512M-UH** program floppy disk
- User's Guide
- Agreement on use of software

2.2 Operating environment

Check the following items before using this product. The product cannot be used correctly if these conditions are not fulfilled.

- The personal computer is compatible with IBM PC-AT.

- Microsoft Windows 3.1 or Windows 95 is correctly operating.
  (SV-512M-UH is Windows 3.1 based program, but it can also work on Windows95)

- CPU is 100 % compatible with 80x86.

- Memory is at least 8 MB.

- Usable hard disk space is at least 4 MB.

- Graphic display function of at least 640 x 480 dots.

- RS-232C interface is prepared.
  (Use No.4315 RS-232C cable for Xon/Xoff handshake,
  No.4320 RS-232C cable for Hardwired handshake.)

- A PC-AT compatible GPIB board and required driver need to be correctly installed in order to use the GPIB interface.
  See below.

  Usable GPIB board:
  National Instruments Corporation AT-GPIB or AT-GPIB/TNT

  Required driver:
  (To use with Windows 3.1 or use AT-GPIB board with Windows95)
  ->「NI-488.2 Software for Windows and the
  AT-GPIB/TNT+, AT-GPIB/TNT(PnP),
  EISA-GPIB and AT-GPIB/TNT
  Version 2.7.1」

(To use AT-GPIB/TNT with Windows95)
->「GPIB Software for Windows 95
Version 1.2」

*Consult National Instruments Corporation regarding the GPIB board and driver (specifications, price, installation and other information).

2.3 Installing the program

Install the program as described below.

1) Start install program

Set the **SV-512M-UH** floppy disk in the PC floppy drive and run INSTALL.EXE

→(Windows 3.1)

Open the File Manager. Choose INSTALL.EXE.

→(Windows95)

Open the Explorer. Choose INSTALL.EXE.

2) Specify drive and directory

A dialog box opens asking for the drive and directory. Input the drive and directory names, then click OK.

→Suggested drive and directory names are already entered. If changes are unnecessary, simply click OK.

3) Installation

The install program automatically copies the necessary files to create a group in Windows and display the SV-512M-UH icon.

→If the program cannot be installed correctly, check the operating environment, such as disk space, then repeat the installation.

《Note》

This product is copy-protected so that the backup of the floppy disk is not available.

Use the delivered floppy disk itself for the installation.

3. Operational outline

Following is a brief outline of the operations. Refer to the specific items for detailed descriptions.

3.1 SV-512M-UH startup

After installing the program, start the program by double clicking the newly created SV-512M-UH icon.

→ If installation is not complete, refer to section 2.3 and install the program.

3.2 Oscilloscope connection

When SV-512M-UH is started, the oscilloscope is automatically connected according to the communication settings entered beforehand.
If connection is normal, the tool bar button shows color. If abnormal, a dialog box appears for correcting the settings.

→If communication parameters have not been set, refer to Section 5.5.1 and set them according to the setting of the oscilloscope.
After setting the parameters, enter the new settings and connect.

→If connection fails even after setting the communications parameters and new settings, check for proper cable and proper port.

→When connect thru RS-232C port with Windows95, if [Transmission failed]message is displayed after the Model number is showed at the title bar, the communication settings should be correct from [Control Panel] to connect successfully by the following sequence

Push [Start] at the task bar→Choose [Settings] →Select [Control Panel] →Double click [System] →Choose [Device Manager] →Select [Ports(COM & LPT) →Double click [Communication Port(COM?)] → Choose [Port Settings] from Communication Port(COM?) properties→ Push [Advanced..] →Select lower settings to correct communication problems

3.3 Waveform access

After correctly connecting to the oscilloscope, select waveform access (once or continuous) from the tool bar or menu. Communication with the oscilloscope is conducted and the waveform is displayed in the waveform display window.

→Avoid changing the application during waveform access or other communication.
Switching to another task will prevent normal communication.
And also avoid sizing or moving **SV-512M-UH** window during the communication.
If the oscilloscope trigger is not engaged, the waveform will not be displayed

until completion of waveform access.

3.4 Waveform observation and measurement

The waveform displayed in the window can be measured with cursors and enlarged. Refer to Section 5.3.

3.5 Waveform print output

The waveform shown in the waveform display window can be sent to a printer. Refer to Section 5.1.

3.6 Waveform save and application

The waveform displayed in the window can be saved to a file and used in another Windows application. In addition, a file saved in text format can be recalled and displayed in **SV-512M-UH**. Refer to Section 5.1 for file menu operations and waveform saving.

3.7 Oscilloscope setting changes

The basic oscilloscope settings can be changed at the panel setting window. Refer to Section 4.2.

3.8 Saving and recalling oscilloscope settings

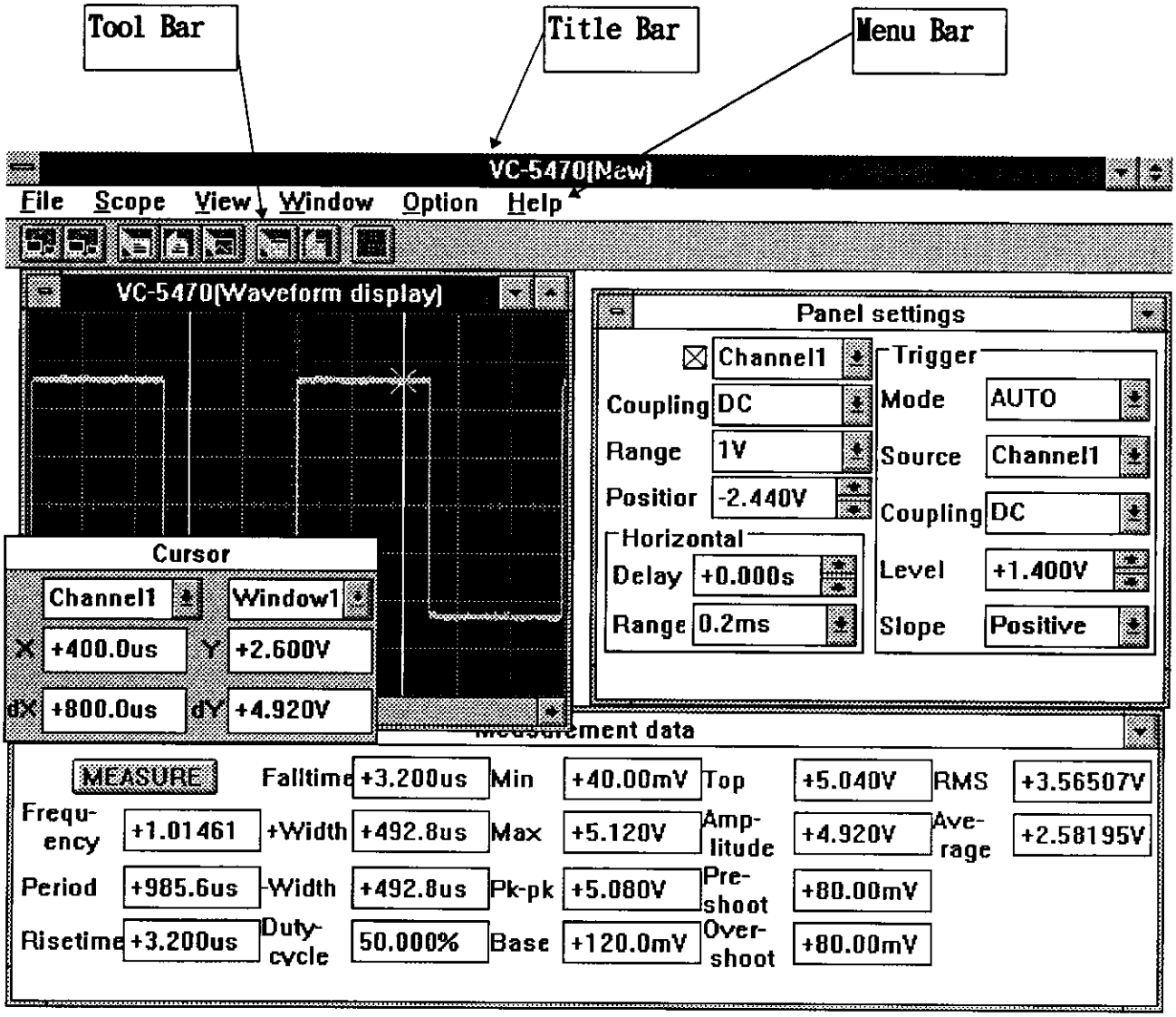
All settings, including basic, set by **SV-512M-UH** can be saved to a file. Afterwards, the oscilloscope can be reset to these parameters by recalling the saved file.

Refer to the file menu operations of Section 5.5.

4. Screen description

SV-512M-UH is comprised of three main windows: waveform display, panel settings and measurement data. The size and locations of the windows can be adjusted to provide a convenient screen layout.

The windows are described in detail in the following Sections.



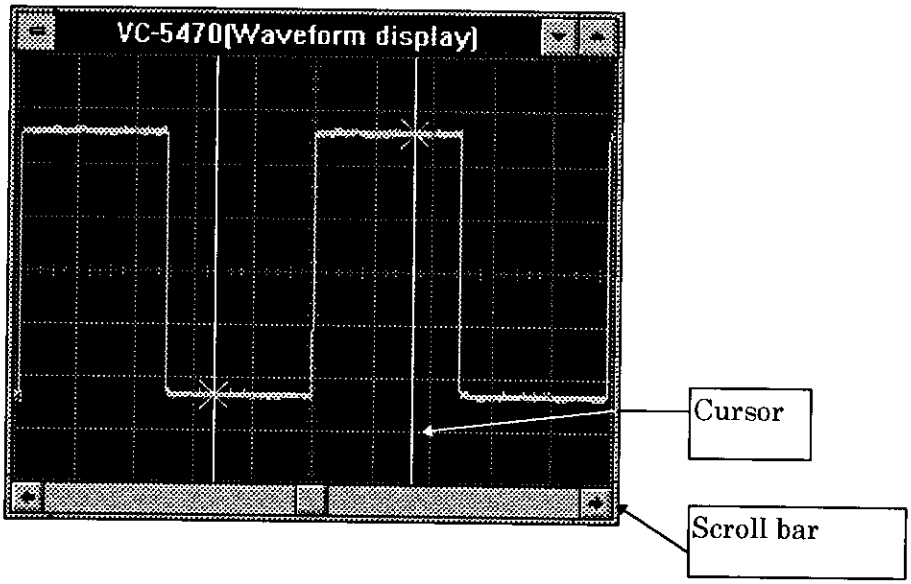
Title Bar Display the connected model type and the setting file name.

Menu Bar Display the menu selections.

Tool Bar Frequently used functions are arranged as short cut buttons.

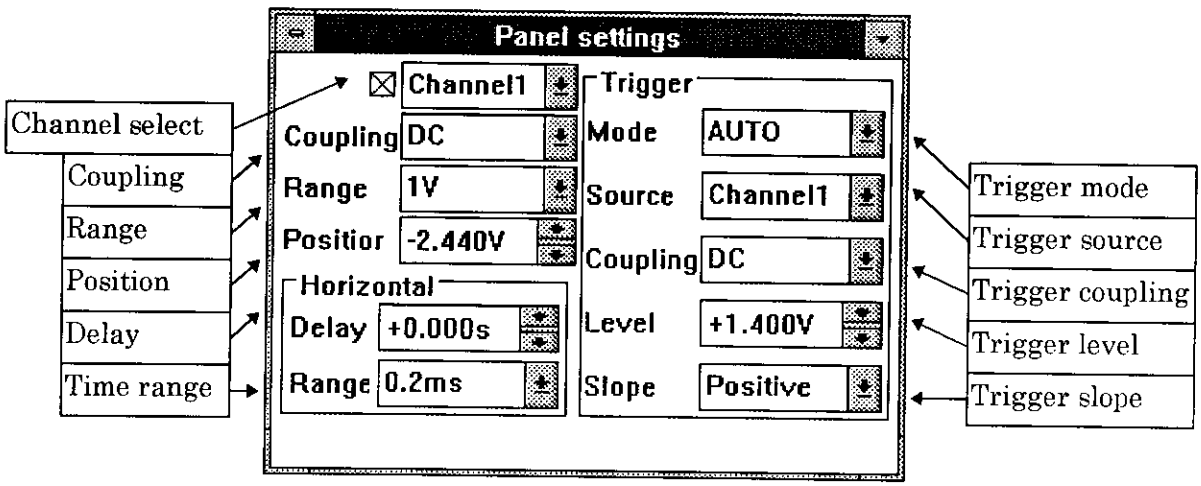
4.1 Waveform display

Waveform data accessed from the oscilloscope are displayed.
When cursor is checked at the menu bar, the reference point and present point cursors are indicated. And also the scroll is checked at the menu bar, the displayed waveform can be scrolled by using the scroll bar.
The blank waveform data of equivalent sampling and roll is displayed as 0V.



4.2 Panel settings

Screen used for setting the oscilloscope. The most recent settings of the oscilloscope are displayed. However, to change the settings manually, reconfigure the menu settings to the most recent status (settings are also correctly revised before waveform access).



Channel select Select the channel for setting and changes. The corresponding channel is displayed.

Coupling The channel coupling can be selected for AC, DC or Ground.

Range Set the channel range from 1 mV to 5 kV. The settable range changes according to the probe.

Position The channel offset is set in the range of ± 10 divisions. After setting, the present offset is inquired from the oscilloscope, the designated and displayed values may not agree in some cases.

Delay The time axis can be set in 0.1 division units

Time range The time range can be set from 1 ns to 50 s. The settable range changes according to the model and roll status.

Trigger mode (VC-54xx series)
Settable for Auto, Normal, TV_V, TV_H, or TVline.
TVline is not available at VC-5410 and VC-5430.
(VC-58xx series)
Any of the following modes can be selected and set:
Edge, Delay, Window, Dropout, TV, Event, Pattern, State, Pulse

Trigger source Settable for Channel 1 or 4, External.
(VC-58xx series)
Modes other than Edge cannot be changed or displayed.

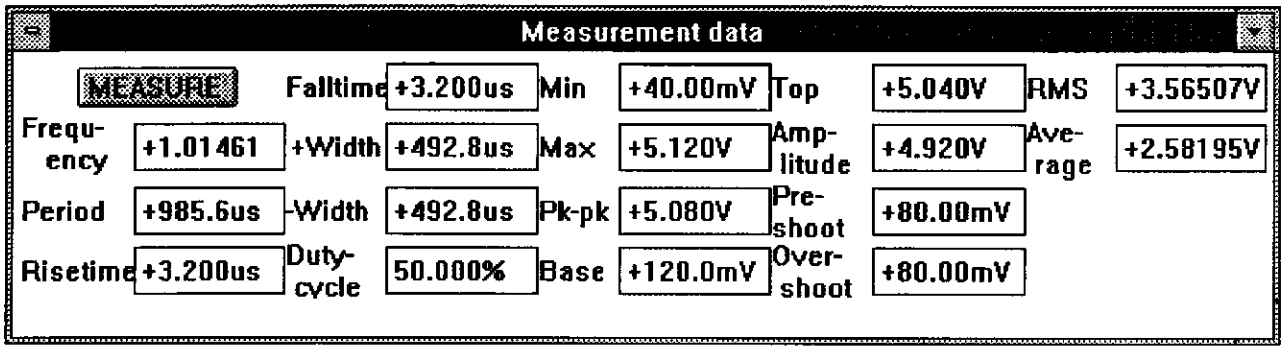
Trigger coupling Settable for DC, AC, HFrej or LFrej.
(VC-58xx series)
Modes other than Edge cannot be changed or displayed.

Trigger level Setting differs according to the trigger coupling. For DC and HFrej, the voltage with reference to ground is displayed. For AC and LFrej, the percentage is displayed with reference to the screen center.
(VC-58xx series)
Modes other than Edge cannot be changed or displayed.

Trigger slope Selectable for trigger rising (Positive) or falling (Negative) edge.
(VC-58xx series)
Modes other than Edge cannot be changed or displayed.

4.3 Measurement data

Access and display data measured with the oscilloscope. Click the Measure button to display the measurement results.



Frequency Frequency measurement is displayed.

Period Period measurement is displayed.

Risetime Risetime measurement is displayed.

Falltime Falltime measurement is displayed.

+Width Positive pulse width measurement is displayed.

-Width Negative pulse width measurement is displayed.

Dutycycle Duty cycle measurement is displayed.

Min Minimum voltage measurement is displayed.

Max Maximum voltage measurement is displayed.

Pk-pk Difference between maximum and minimum voltage measurement is displayed.

Base Base voltage measurement is displayed.

Top Top voltage measurement is displayed.

Amplitude Difference between base and top voltage measurement is displayed.

Preshoot Preshoot measurement is displayed.

Overshoot Overshoot measurement is displayed.

RMS Effective voltage measurement is displayed.

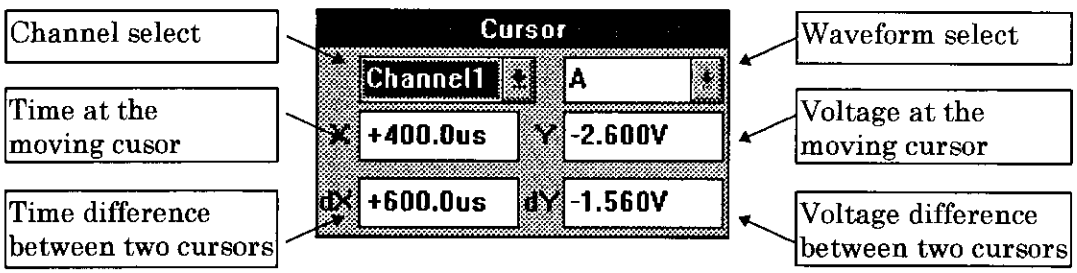
Average Average voltage measurement is displayed.

4.4 Cursor display

With the most recently moved cursor as reference, the potential and time difference of the other cursor is displayed.

The cursor measurement works on the channel which is selected by the **Channel select.**

For the VC-58xx series, the waveform to be measured can be selected from the main (A)and the zoom(B1, B2).



5. Menu description

5.1 File

New settings A new setting file is created.

Open settings Previously saved panel settings are accessed for setting the oscilloscope.

Save settings Save present panel settings.

Save settings As Create new file and save present panel settings.

Print Effective when the waveform display window is selected and the print dialog is set. Requires installing the proper print driver to match the printer being used.

Printer settings The printer setting can be checked and changed.

1, 2, 3, 4... Recently used setting files can be selected, connected and set.

Save waveform

Text form Save waveform data and panel settings in text format or Lotus 1-2-3 format such as read by tabulation software. The text format which is exceed 8192 records can not be read by Lotus 1-2-3.

Binary form Data of 1 waveform are stored in 1 byte binary format. Although not usable for other Windows software, file size can be minimized.

Image form Save waveform display screen in BMP, TIFF or PCX image format.

→ To use the overall SV-512M-UH screen, simultaneously press the Alt and Prt Sc keys and use the Windows functions. The overall screen can be copied to a clipboard.

Memory Save data stored in the oscilloscope memory to a file. (Not selectable with VC-58xx series.)

Acquisition VC-58xx series:
The acquisition memory waveform can be saved.
(cannot be selected for VC-54xx series)

Open waveform Access previously saved text file and display panel settings, waveform and measurement data.

Text form Open file saved in text format.

Binary form Open file saved in binary format.

Acquisition Open file saved in acquisition format.

Exit SV-512M-UH is ended.

5.2 Scope

Acquisition

Single shot Access and display waveform data by the single shot.

Run Continuously access and display waveform data.

Auto setup Automatically set the oscilloscope channel range and other parameters. The setting information is displayed on the panel setting screen.

Send DIGITIZE Selects to enable or inhibit one real-time input waveform redisplay on oscilloscope.

5.3 View

Zoom After selecting, enlarge to a square with two designated points at the upper left and lower right corners.
To set the displayed waveform at initial position, click right button of the mouse in the waveform display window.

Line When this menu is checked, the waveform display is coupled by a straight line.
When the equivalent sampling is selected, the displayed waveform is sometimes joined with the blank data. In this case, do not select the line display.

Cursor When this menu is checked, two cursors are displayed at the waveform window.
Click the waveform window to drag and drop the nearer cursor. The difference between the voltage and time indicated by the cursor from those indicated by the other cursor is displayed in the dialog box.
The cursor measurement works on the channel which is selected by the **Channel select** of the panel setting window.
If the selected channel is not checked, both cursors can not be moved.

Scroll bar When this menu is checked, the scroll bar is displayed below the waveform display window. By using this scroll bar, the displayed waveform can be horizontally scrolled.

Tool bar Tool bar display on/off.

5.4 Window

Cascade Windows are displayed overlapped.

Tile Windows are displayed adjacently without overlapping.

Arrange icons Closed windows are arranged in a row.

User setup Each window position returns to the previous end position.

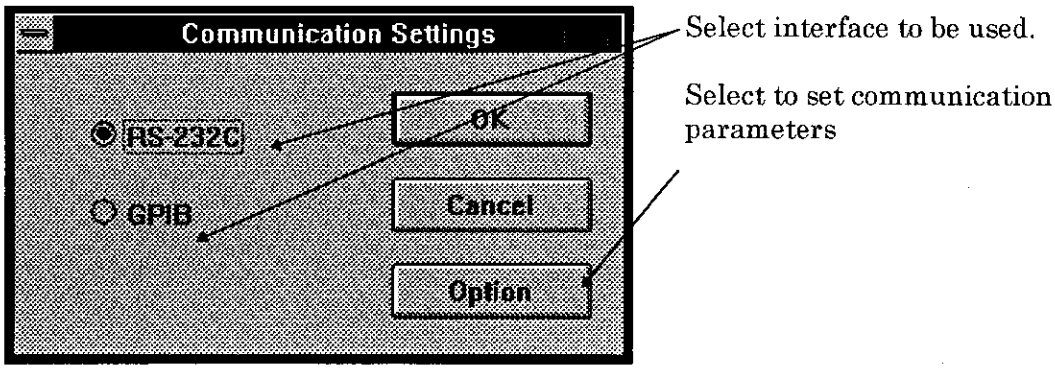
Factory setup Measurement data and panel setting windows return to default sizes and positions.
The waveform window is displayed in the remaining area.

5.5 Option

5.5.1 Communication setup

Set communication parameters between the oscilloscope and application. Set together with the oscilloscope.

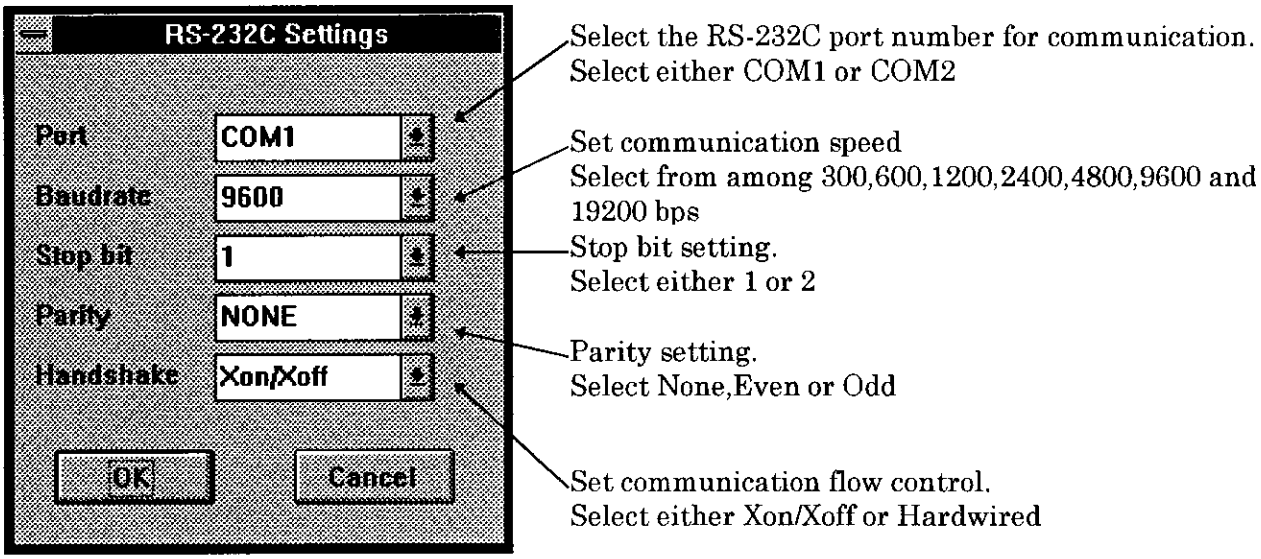
1)Communication settings



Accept changes by clicking OK; click Cancel to reject changes.

2) RS-232C Settings

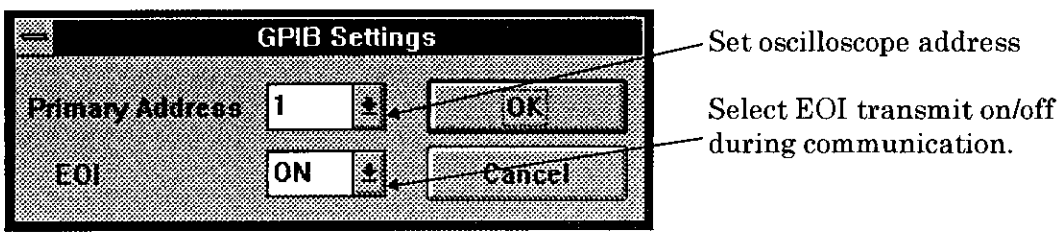
Set comms paramters when using RS-232C.



To enter changes, click OK. To cancel changes, click Cancel.

3) GPIB settings

Set comms parameters when using GPIB.



Accept changes by clicking OK; click Cancel to reject changes.

5.5.2 Image

1) White background

By checking this item, the image can be saved against a white background. Check this item if the waveform is blackened out during printer output.

2) Factors

By checking this item, the setting information can be saved with the waveform display in the image file.

3) Monochrome

Check this item to save a black and white image. Convenient when using a monochrome printer.

4) Date and time

Check this item to save the date and time.

5) To clipboard

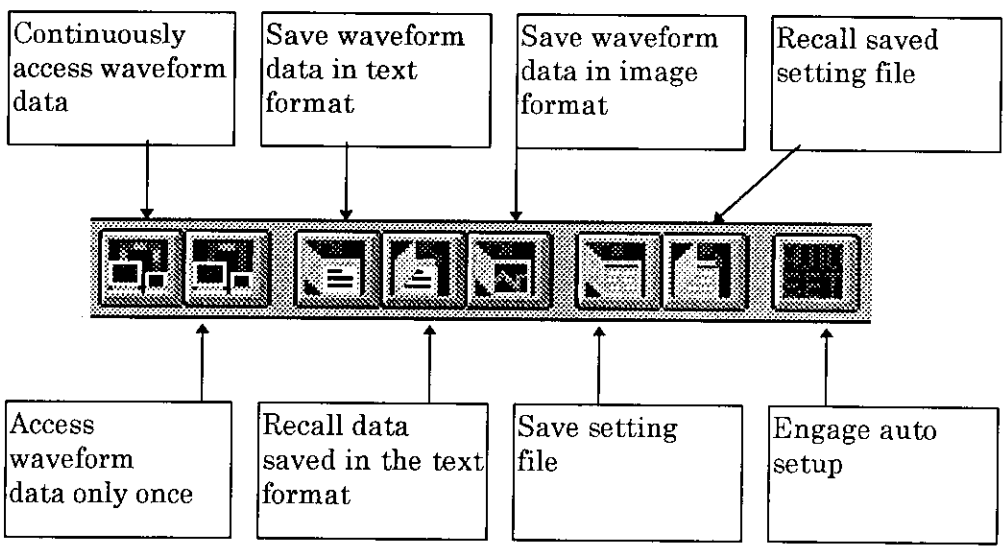
Check this item to copy the image to clipboard.

5.5.3 Position of communication message

The communicating message box can be moved by the mouse.

5.6 Tool bar

Frequently used functions are arranged as short cutbuttons at the top of the screen



Agreement on Use of Software

This agreement is made by and between Hitachi Denshi, Ltd., the manufacturer of this Software, and the Buyer, the end user, regarding permission of the Software use as well as its warranty. Please read carefully.
Upon use of the Software by the Buyer, it shall be automatically regarded that the Buyer has agreed that he or she is bound to the terms and conditions herein stated, and that this agreement become officially effective. Should the Buyer not agree to the provisions herein stated, the Buyer should immediately return the entire Software (including floppy disks, instructions manuals and every other things in the package), without use, to the shop from which the Buyer bought it and be refunded the money.

*Right of Use

Hitachi Denshi will permit the Buyer to use the Software each on one computer exclusively. The Buyer agrees that he or she will buy the same number of the Software as that of computers if the Software is to be used on more than one computer at the same time by more than one person other than the Buyer (for example on computer network, file server, etc.).

*No transfer

Should the Buyer want to assign the entire Software to a third party, the Buyer will be required to have prior consent from Hitachi Denshi and the Buyer shall not retain any copies of it. The Buyer must ensure that the assignee accepts that this agreement will apply to the assignee and he or she will be bound to its every provision. The Buyer agrees that he or she has no right to assign any of the Software, including its copy, to a third party as well as the right of use mentioned above unless the Buyer obtains the above agreement from the assignee.

If the Buyer has bought the Software in an updated version and wants to assign it to a third party, the Buyer shall assign it together with any and all packages before being updated.

*Copyright

The copyright of the Software shall be retained by Hitachi Denshi. Therefore, the Buyer should treat the Software in the same way as other literary works (books, magazines, etc.). The Buyer has no right to reproduce the Software in any manner. This applies to a case of copy from floppy disk to hard disk. In addition, the Buyer has no right to reproduce any documents attached to the Software package.

*Restriction

The Buyer has no right to rent, lease, or grant the using right of the Software. The Buyer agrees that he or she will not make reverse engineering, reverse compiling, or reverse assembling, nor create any works based on information of the Software.

Scope of Liabilities and Warranty

The period of warranty on the Software shall be limited to one year from the date of purchase. It is agreed that Hitachi Denshi will not, explicitly or implicitly, guarantee the Software's quality, performance, commercial value, or suitability for any particular application stated in the instruction manual. The Buyer accepts every responsibility on quality and performance of the Software. The Buyer agrees that Hitachi Denshi is not responsible for damages, directly or indirectly, specially, or contingent or expectant, resulting from any deficiency in the instruction manuals of the Software, even if it is reported that such damage may have occurred. It is agreed that Hitachi Denshi has no liability for damaged programs or data of the Software and it will not bear any cost for recovering or reproducing such programs or data. It is understood that Hitachi Denshi's dealers, shops, or their employees are not authorized to modify, enlarge, or add to the above scope.

● Hitachi Denshi, Ltd.

PROGRAM NO. PROGRAM NAME VERSION NO.	SV-512M-UH Scope Data Management Software 2. 02
VOLUME SERIAL NO.	9050054
OBJECT MODEL	VC-5400series VC-5800series

Licensed Material of Hitachi Denshi,Ltd.
Reproduction,use,modification or disclosure otherwise than permitted in the License Agreement is strictly prohibited.

Copyright © Hitachi Denshi,Ltd.1996-1998.
All Rights Reserved.