ΗΙΟΚΙ

Instruction Manual

9674

RS-232C PACKAGE

HIOKI E. E. CORPORATION



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Introduction

Thank you for purchasing the HIOKI "9674 RS-232C PACKAGE". To obtain maximum performance from the product, please read this manual first, and keep it handy for future reference.

Registered trademarks

- Windows is a registered trademark of Microsoft Corporation.
- Pentium is a registered trademarks of Intel Corporation.

Inspection

- When you receive the product, inspect it carefully to ensure that no damage occurred during shipping. If damage is evident, or if it fails to operate according to the specifications, contact your dealer or Hioki representative.
- Use the original packing materials when reshipping the product, if possible.

Contents of the 9674 RS-232C PACKAGE

CD-R (9674 RS-232C PACKAGE)	1
RS-232C cable	1
Instruction manual	1



Safety Notes

ADANGER This product is designed to conform to IEC 61010 Safety Standards, and has been thoroughly tested for safety prior to shipment. However, mishandling during use could result in injury or death, as well as damage to the product. Be certain that you understand the instructions and precautions in the manual before use. We disclaim any responsibility for accidents or injuries not resulting directly from product defects.

This manual contains information and warnings essential for safe operation of the product and for maintaining it in safe operating condition. Before using the product, be sure to carefully read the following safety notes.

Safety Symbols



The following symbols in this manual indicate the relative importance of cautions and warnings.

A DANGER	Indicates that incorrect operation presents an extreme hazard that could result in serious injury or death to the user.
<u> WARNING</u>	Indicates that incorrect operation presents a signifi- cant hazard that could result in serious injury or death to the user.
<u> ACAUTION</u>	Indicates that incorrect operation presents a possi- bility of injury to the user or damage to the product.
NOTE	Advisory items related to performance or correct operation of the product.



Usage Notes

Follow these precautions to ensure safe operation and to obtain the full benefits of the various functions.



- Do not store or use the product where it could be exposed to direct sunlight, high temperature or humidity, or condensation. Under such conditions, the product may be damaged and insulation may deteriorate so that it no longer meets specifications.
- To avoid damage to the product, do not allow the product to get wet, and do not use it when your hands are wet.
- Do not use the product where it may be exposed to corrosive or combustible gases. The product may be damaged.
- Always hold the disc by the edges, so as not to make fingerprints on the label side or scratch the printing.
- Never touch the recorded side of the disc. Do not place the disc directly on anything hard.
- Do not wet the disc with volatile alcohol or water, as there is a possibility of the label printing disappearing.
- To write on the disc label surface, use a spirit-based felt pen. Do not use a ball-point pen or hard-tipped pen, because there is a danger of scratching the surface and corrupting the data. Do not use adhesive labels.
- Do not expose the disc directly to the sun's rays, or keep it in conditions of high temperature or humidity, as there is a danger of warping, with consequent loss of data.
- To remove dirt, dust, or fingerprints from the disc, wipe with a dry cloth, or use a CD cleaner. Always wipe radially from the inside to the outside, and do no wipe with circular movements. Never use abrasives or solvent cleaners.
- In the interests of ongoing product developments, there may be minor discrepancies between screen displays and the operating instructions, and in the data conversion process.
- HIOKI disclaims all responsibility for any computer systemrelated problems that may occur during use of this CD-R, and for any problems that may occur as a consequence of purchase of this product.



Note on Used for 9674 RS-232C PACKAGE

Before using the software, please read these notes carefully.

- HIOKI E.E. Corporation is the author of 9674 RS-232C PACK-AGE.
- Except for the purposes of processing data from the 3446-01/ 3447-01 or controlling the 3446-01/3447-01, copying, reproduction, or amendment in whole or in part of 9674 RS-232C PACK-AGE is prohibited by law.
- For the purposes of product development, 9674 RS-232C PACK-AGE is subject to upgrading without notice.
- To publish material referencing 9674 RS-232C PACKAGE, the prior consent of HIOKI is required. The trademark "HIOKI" may not be used.
- HIOKI cannot accept any responsibility whatever for the results of a customer's operation of 9674 RS-232C PACKAGE.



Product Overview

The 9674 RS-232C PACKAGE contains PC software and a connection cable that allow you to load data recorded using the HIOKI 3446-01 or 3447-01 TEMPERATURE HITESTER onto your computer.

By using the supplied software (9674 COMMUNICATION UTIL-ITY), you can display data loaded from the 3446-01 or 3447-01 on your computer so that it can be printed.

Further, you can easily control temperatures by registering an item, ID, and comparator range and then making settings on the 3446-01/3447-01. If you register the name (product name or item) of the measurement object as the item and the name of the worker performing the measurement as the ID, you can control both measurement data and measurement times.

By using COMMUNICATION UTILITY for 3911 (software designed for use with HIOKI's logger series), you can display interval recording data as a graph.

9674 COMMUNICATION UTILITY

This software allows you to communicate with the 3446-01/3447-01 TEMPERATURE HITESTER.

COMMUNICATION UTILITY for 3911

This software allows you to display 3446-01/3447-01 TEMPERA-TURE HITESTER interval recording data as a graph. However, it does not allow communication with the 3446-01/3447-01. Only version 1.14 or later is compatible with the 3446-01/3447-01. **6** HIOKI

Installation



Operating environment

- Computer with Pentium 90 MHz CPU or higher
- Microsoft Windows95/98/Me/NT4.0/2000/XP
- · At least 32 MB of main memory
- A display with 800 X 600 dot resolution
- At least 256 colors
- · At least 4 MB of empty space on the hard disk

Recommended environment

- Computer with Pentium 200 MHz CPU or higher
- Microsoft Windows95/98/Me/NT4.0/2000/XP
- 32 MB of main memory
- A display with 800 X 600 dot resolution
- At least 65536 colors
- · At least 4 MB of empty space on the hard disk

(The above information is common to both 9674 COMMUNICA-TION UTILITY and COMMUNICATION UTILITY for 3911.)

2.1 Software Installation

In order to use the 9674 RS-232C PACKAGE, you must install the "9674 COMMUNICATION UTILITY" software supplied with your computer. Installing "COMMUNICATION UTILITY for 3911" enables you to display interval recording data as a graph.

2.1.1 9674 COMMUNICATION UTILITY

Before installing this software, close all other applications that are open on your computer.

- 1. Run "X:\9674\ENGLISH\SETUP.EXE" on the CD-R supplied with the 9674 RS-232C PACKAGE. (where "X" is the CD-ROM drive)
- 2. Follow the on-screen instructions to install the software.
- After installation, select [9674 COMMUNICATION UTILITY] in [Programs] on the Windows [Start] menu to start the application.

How to uninstall

Go to [Add/Remove Programs] from [Control Panel] to delete [9674 COMMUNICATION UTILITY]. When upgrading version, delete older application software before installation.

2.1.2 COMMUNICATION UTILITY for 3911

Before installing this software, close all other applications that are open on your computer.

- Run "X:\3911\ENGLISH\SETUP.EXE" on the CD-R supplied with the 9674 RS-232C PACKAGE. (where "X" is the CD-ROM drive)
- 2. Follow the on-screen instructions to install the software.
- After installation, select [COMMUNICATION UTILITY for 3911] in [Programs] on the Windows [Start] menu to start the application.

How to uninstall

Go to [Add/Remove Programs] from [Control Panel] to delete [COMMUNICATION UTILITY for 3911]. When upgrading version, delete older application software before installation.



Only version 1.14 or later is compatible with the 3446-01/3447-01.

2.1.3 During Installation

Because these were developed with Microsoft Visual Basic5.0, Windows "shared files" are copied during installation possibly displaying the following error messages. Error messages and files with errors may vary depending on your personal computer environment.

Example 1)

"MFC42.DLL cannot be installed. File error."

Example 2)

"Error occurred while copying C:\WINDOWS\SYSTEM\MFC42.DLL file."

Example 3)

"Destination file for set up is already used by another application. Close application software in use."

Error occurs while recognizing "shared file" to be copied already existing in the system. The "shared file" is in use by another application running or by Windows at time of installation. Visual Basic installation program is designed to display error messages as a process to protect existing application software operations in the system. In order to avoid errors, close all application software before installation. Be sure to close any virus detection software that may prevent copying the "shared file".

When an error message appears even after closing other application software, select button (ignore) from options to skip file copy and continue installation.

The "shared file" to be copied during installation already exists in the system and selecting option to skip file copy does not interfere with installation nor existing application software.

2.2 Connecting the RS-232C Cable

Using the 9674 RS-232C PACKAGE, you can connect the 3446-01/3447-01 TEMPERATURE HITESTER to a computer for exchange of data.

<u>A</u>CAUTION

- To avoid damaging the 3446-01/3447-01, never connect any cable other than the supplied cable to the RS-232C connector.
- When disconnecting the RS-232C cable, be sure to release the lock before pulling off the connector. Forcibly pulling the connector without releasing the lock, or pulling on the cable, can damage the connector.
- To avoid damaging the cable, do not bend or pull the cable.
- Avoid stepping on or pinching the cable, which could damage the cable insulation.
- Keep the cable well away from heat sources, as bare conductors could be exposed if the insulation melts.
- The RS-232C cable is not dust or water resistant. Do not use RS-232C communication in environments that are very dusty or exposed to water. Doing so is likely to result in damage.

Make sure connectors are always properly inserted. If the connector or protective cap is not properly inserted, dust or other foreign matter may enter the connector and cause damage. Replace the protective cap when not using the connector.



Communications

3.1 Window Configuration

The following three windows are available when using 9674 COM-MUNICATION UTILITY.

R 9674 COMMUNICATION UTILITY										
The Fox House Hole										
Dat	DataTable01 DataTable02 DataTable03									
_ Infi	ormation				D					
	Comment: 3446	3447 Sar	nple		Data: 30					
1	Serial No.: 2002-0	0142934			IN: 22					
	Model: 3447 \$	Sensor1			10.22					
No.	DATE/TIME		[0]	ITEM(LCD)	ITEM(Comment)	COMF	UP	LOW	ID(LCD)	ID(Comment)
	1 2002/02/12	14:21:51	87.9	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	2 2002/02/12	14:22:00	90.4	CROQUETTE	CROQUETTE	Hi	90.0	80.0	OP1	OPERATOR1
_	3 2002/02/12	14:22:06	87.7	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	4 2002/02/12	14:22:08	90.5	CROQUETTE	CROQUETTE	Hi	90.0	80.0	OP1	OPERATOR1
	5 2002/02/12	14:22:20	80.3	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	<u> </u>	:22:21	79.7	CROQUEITE	CRUQUETTE	Lo	90.0	80.0	OP1	OPERATOR1
	7 2002/02/12	1:22:24	84.9	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	8 2002/02/12	1 22:26	83.4	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	9 2002/02/12	1 22:29	82.6	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	10 2002/02/12	14 22:32	80.1	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	11 2002/02/12	1422:46	79.2	CROQUETTE	CROQUETTE	Lo	90.0	80.0	OP1	OPERATOR1
	12 2002/02/12	14 2:53	85.2	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	13 2002/02/12	14: 2:56	87.7	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	14 2002/02/12	14: 2:57	93.0	CROQUETTE	CROQUETTE	Hi	90.0	80.0	OP1	OPERATOR1
	15 2002/02/12	14:2:59	90.6	CROQUETTE	CROQUETTE	Hi	90.0	80.0	OP1	OPERATOR1
	16 2002/02/12	14:2:00	82.5	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	17 2002/02/12	14:2 01	82.5	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	18 2002/02/12	14:23 02	82.6	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	19 2002/02/12	14:23 03	82.6	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1
	20 2002/02/12	14:23 7	90.5	HAMBURGER	HAMBURGER STEAK	Hi	90.0	80.0	OP1	OPERATOR1
	21 2002/02/12	14:23:8	90.4	HAMBURGER	HAMBURGER STEAK	Hi	90.0	80.0	OP1	OPERATOR1
	22 2002/02/12	14:23:1	85.2	HAMBURGER	HAMBURGER STEAK	IN	90.0	80.0	OP1	OPERATOR1
	23 2002/02/12	14:23:4	85.1	HAMBURGER	HAMBURGER STEAK	IN	90.0	80.0	OP1	OPERATOR1
1										- D

Main window

Menu bar										
Tab	- <mark>y</mark> Eile <u>E</u> dit <u>R</u> emote <u>H</u> elp									
Comment about the	DataTable01 DataTable02 DataTable03									
used	Comment:>3446 3447 Sample	Data: 30 Hi: 6								
Serial number of the measurement device	 Serial No.: 2002-0142934 Model: 3447 Sensor1 	IN: 22 Lo: 2								
used	No. DATE/TIME [C] ITEM(LOD) ITEM(Comment)								
Measurement device	1 2002/02/12 14:21:51 87.9 CROG	QUETTE CROQUETTE								
and number of sensor	2 2002/02/12 14:22:08 90.4 CROG	QUETTE CROQUETTE								
used	3 2002/02/12 14:22:06 87.7 CROG	QUETTE CROQUETTE								
	4 2982/02/12 14:22:08 90.5 CROG	QUETTE CROQUETTE								
Data table	5 2002/02/12 14:22:20 80.3 CROG	UETTE CROQUETTE								

Number of test results

Adds selected data to the setting file.

T

Menu bar	<mark>.</mark> 9674 ·	- Library			- - X
Tab 🚽 🔰	<u>F</u> ile <u>E</u> o	dit			
	TEM				Add to Send Data
	No.	ITEM(LCD)	UP	LOW	ITEM(Comment)
	1	PORK CUTLET	90.0	80.0	PORK CUTLET
	2	CROQUETTE	90.0	80.0	CROQUETTE
	3	HAMBURGER	90.0	80.0	HAMBURGER STEAK
	4	S-STEAK	90.0	80.0	STEAK SIZE S
	5	M-STEAK	90.0	80.0	STEAK SIZE M
	6	BACON	90.0	80.0	FLIED BACON
	7	WIENER	90.0	80.0	WIENER
	8	G-CHIKEN	90.0	80.0	GRILLED CHIKEN
	9	F-PORK	-20.0	-30.0	FREEZED PORK
	10	F-SALMON	-20.0	-30.0	FREEZED SALMON
	11	F-TUNA	-20.0	-30.0	FREEZED TUNA
	12	POT-SALAD	12.0	2.0	POTATO SALAD
	13	CAB-SALAD	12.0	2.0	CABBAGE SALAD
	14	MIX-VEG	12.0	2.0	MIX VEGETABLE
	15	S-CARROT	90.0	80.0	SLICED CARROT
	16	M-CARROT	90.0	80.0	MINCED CARROT
	17	S-ONION	90.0	80.0	SLICED ONION
	18	M-ONION	90.0	80.0	MINCED ONION
	19	S-CAB	90.0	80.0	SLICED CABBEGE
					۰ <u> </u>
					Close

Library window

Sends items to the 3446-01/3447-01.

Т

Menu bar ———	<mark></mark>	-Setting File dit				<u> ×</u>
Comment sent to	Comme		Send			
3447-01	ITEM	ID				
Data sent to the 3446-01/3447-01	No. 1 2 3 4 5	ITEM (LCD) FORK CUTLET CROQUETTE HAMBURGER BACON G-CHIKEN	UP 90.0 90.0 90.0 90.0 90.0	LOW 80.0 80.0 80.0 80.0 80.0	ITEM (Comment) PORK CUTLET CROQUETTE HAMBURGER STEAK FLIED BACON GRILLED CHIKEN	
						Close

Setting file window

3.2 Communication Settings

The following preparation is required when communicating between the 3446-01/3447-01 TEMPERATURE HITESTER and the 9674.

- 1. Check that the serial communications port on your computer and the 3446-01/3447-01 are connected with the supplied RS-232C cable. (The serial communications port is indicated by the mark "[[O]O]]".)
- 2. Start [9674 COMMUNICATION UTILITY] from the Windows [Start] menu.
- 3. Select the communications port on your computer that you want to use from [Serial Port] in [Remote] on the menu bar.



3.3 Set Clock for the 3446-01/3447-01 TEMPERATURE HITESTER

Firstly, you must make communications settings. For information on how to make communication settings, see 3.2 "Communication Settings" (page 16).

- Select [Set Clock] from [Remote] on the menu bar of the Main window. The current time (the time set on your computer) is displayed on the clock.
- 2. Click [OK] to send the current time to the 3446-01/3447-01.

Sending Dates	×
Present Time	1
2002/03/19 17:01:53	
Send present time ?	J
OK	

3.4 Libraries and Setting Files

A library and setting file must be created before you can use the item (product name) and ID (worker name) display functions on the 3446-01/3447-01 TEMPERATURE HITESTER.

A library is the basic file where multiple items and IDs are registered. (The file extension for library files is ".htl".)

A setting file is the file used for communicating with the 3446-01/ 3447-01, and is created by selecting the required item and ID only from the library. (The file extension for setting files is ".hts".) The 3446-01/3447-01 can store up to 300 items and 100 IDs in its memory.

9674 - Library							
<u>F</u> ile <u>E</u> o	lit						
ITEM	lin 1			Add to Send Data			
	ן ייין						
No.	ITEM(LCD)	UP	LOW	ITEM(Comment)			
1	PORK CUTLET	90.0	80.0	PORK CUTLET			
2	CROQUETTE	90.0	80.0	CROQUETTE			
3	HAMBURGER	90.0	80.0	HAMBURGER STEAK			
4	S-STEAK	90.0	80.0	STEAK SIZE S			
5	M-STEAK	90.0	80.0	STEAK SIZE M			
6	BACON	90.0	80.0	FLIED BACON			
7	WIENER	90.0	80.0	WIENER			
8	G-CHIKEN	90.0	80.0	GRILLED CHIKEN			
9	F-PORK	-20.0	-30.0	FREEZED PORK			
10	F-SALMON	-20.0	-30.0	FREEZED SALMON			
11	F-TUNA	-20.0	-30.0	FREEZED TUNA			
12	POT-SALAD	12.0	2.0	POTATO SALAD			
13	CAB-SALAD	12.0	2.0	CABBAGE SALAD			
14	MIX-VEG	12.0	2.0	MIX VEGETABLE			
15	S-CARROT	90.0	80.0	SLICED CARROT			
16	M-CARROT	90.0	80.0	MINCED CARROT			
17	S-ONION	90.0	80.0	SLICED ONION			
18	M-ONION	90.0	80.0	MINCED ONION			
19	S-CAB	90.0	80.0	SLICED CABBEGE			
				Close			

Library

Select the data you want to send to the 3446-01/3447-01 from the library, and create the setting file.

<u>F</u> ile <u>E</u> dit								
Comment	Comment: Restaurant1							
ITEM	D							
No. I'	TEM(LCD)	UP	LOW	ITEM(Comment)	<u> </u>			
1 P	ORK CUTLET	90.0	80.0	PORK CUTLET				
2 C1	ROQUETTE	90.0	80.0	CROQUETTE				
<u>3</u> H.	AMBURGER	90.0	80.0	HAMBURGER STEAK				
4 B.	ACON	90.0	80.0	FLIED BACON				
5 G-	-CHIKEN	90.0	80.0	GRILLED CHIKEN				
,					Ľ			
					Close			

Setting file

The following illustration provides an outline of the relationship between libraries and setting files.



3.5 Creating a Library

Items and IDs

- On the ITEM tab, enter the name of the object whose temperature you want to measure.
- On the ID tab, enter a code that distinguishes the measurements or the worker in charge of temperature measurement.

9674 - Library				
<u>F</u> ile <u>E</u> dit				
ITEM ID				Add to Send Data
No. ITEM(LCD)	UP	LOW	ITEM (Comment) 🔤
1	ļ			

Item input screen



- In [ITEM (LCD)] or [ID (LCD)], enter a character string of 12 characters or less to be sent to the 3446-01/3447-01.
 - In [ITEM (Comment)] or [ID (Comment)], enter a character string of 24 characters or less to be used when viewing measurement data in a table or printing data. This character string is not sent to the 3446-01/3447-01.

(Example)

To measure the temperature of a "croquette" as having an upper limit of 90.0°C and a lower limit of 80.0°C: (The worker in charge of measurement is referred to as "OPERATOR1.")

1. Select [File], then [New Library] from the menu bar in the Main window. The [Library] window appears.

_
]
4
Ш
ш

Item input screen

- 2. Enter "CROQUETTE" as the measurement object in [ITEM (LCD)] on the item input screen. Click the Enter key.
- 3. In [UP], enter [•] 90.0". Click the Enter key.

- In [LOW], enter "80.0". Click the Enter key.
 In [ITEM (Comment)], enter "CROQUETTE".
 Click the Enter key.

🗐 9674 – Library				_ 🗆 🗵
<u>F</u> ile <u>E</u> dit				
ITEM ID				Add to Send Data
No. ITEM(LCD)	UP	LOW	ITEM (Comment)
1 CROQUETTE	90.0	80.0	CROQUETTE	

7. Click the [ID] tab to display the ID input screen.

💂 9674 - Library		
<u>F</u> ile <u>E</u> dit		
		Add to Send Data
	-	
No. ID(LCD)	ID(Comment)	
1_OP1	OPERATOR1	

- ID input screen
- In [ID (LCD)], enter "OP1". Click the Enter key.
 In [ID (Comment)], enter "OPERATOR1".
 Click the Enter key.

- 11. Select [File], then [Save As] on the menu bar in the [Library] window.

Save As			? X
Save jn: 🔂	SampleLib	- 🗈 💆	<u>er</u> 🔳
 Test01Lib. Test02Lib. Test03Lib. Test04Lib. Test05Lib. Test06Lib. 	htl An Test07Lib.htl htl An Test08Lib.htl htl An Test09Lib.htl htl An Test10Lib.htl htl An Test11Lib.htl htl An Test12Lib.htl	 Test13Lib.htl Test14Lib.htl 	
File <u>n</u> ame:	Test14Lib.htl		<u>S</u> ave
Save as type:	TEMP HITESTER Library (∙.htl) 💌	Cancel

12. Click [Save] to save the file.



- To display a new line, click the Enter key while the [ITEM (Comment)] or [ID (Comment)] cell is selected.
 - The symbols that can be entered are as follows:

!#\$%&'()*+-.:;<=>?@^_{|}[](space)

- Enter the upper and lower temperature limits (°C) for the comparator function in [UP] and [LOW]. You can enter a numerical value between -100 and 1000. Numbers are valid to one decimal place. However, decimal places are ignored for values between 300 and 1000.
- The maximum number of data items that can be registered in a library is 1500 for items and 500 for IDs.

3.6 Editing a Library

- 1. Select [File], then [Open Library] from the menu bar in the Main window.
- 2. Select the file you want to open, and then click [Open]. (The file extension for library files is ".htl".)

Open			? ×
Look jn: 🔂	SampleLib	- 🗈 💆	<u>r</u>
 Test01Lib. Test02Lib. Test03Lib. Test04Lib. Test04Lib. Test05Lib. Test05Lib. 	ht Test07Lib.ht ht Test08Lib.ht ht Test08Lib.ht ht Test09Lib.ht ht Test10Lib.ht ht Test11Lib.ht) Test13Lib.htl Test14Lib.htl	
File <u>n</u> ame:	Test14Lib.htl		<u>O</u> pen
Files of type:	TEMP HITESTER Library ([*.htl]	Cancel

3. Edit the opened library file.

For information on how to edit library files, see 3.5 "Creating a Library" (page 20).

You can use the following functions from [Edit] on the menu bar in the [Library] window:

Undo	Returns the file to the condition immediately prior to the last line entry, line deletion, cut, or paste.
Insert Line	Inserts a new line.
Delete Line	Deletes a line.
Cut	Removes the selected area and pastes it onto the clipboard.
Сору	Copies the selected area onto the clipboard.
Paste	Pastes the selected area from the clipboard.
Copy all	Copies all of the data.
Find	Finds the character string.
Sort	Sorts the data.

4. When you are finished editing the library file, click [Close]. For information on how to save the library file you edited, see 3.5 "Creating a Library" (page 20).

3.7 Creating Setting Files

You can create item and ID data setting files to send to the 3446-01/3447-01 TEMPERATURE HITESTER.

A library is required in order to create a setting file.

For information on how to create a library, see 3.5 "Creating a Library" (page 20).

(Example)

To select the data for "CROQUETTE" and "HAMBURGER" from the [Library] window in order to create a setting file:

- 1. Select [File], then [Open Library] from the menu bar in the Main window.
- Select the library file you want to open, then click [Open] to display the [Library] window.

<mark>≣</mark> ∦9674 - Library <u>F</u> ile <u>E</u> dit				-DX
			[Add to Settings
No. ITEM(I CD)	UP	LOW	ITEM(Comment)	
	90.0	80.0	PORK CUTLET	
2 CROQUETTE	90.0	80.0	CROQUETTE	
3 HAMBURGER	90.0	80.0	HAMBURGER ST	TEAK
4 S-STEAK	90.0	80.0	STEAK SIZE S	
5 M-STEAK	90.0	80.0	STEAK SIZE M	
6 BACON	90.0	80.0	FLIED BACON	
7 WIENER	90.0	80.0	WIENER	
8 G-CHIKEN	90.0	80.0	GRILLED CHIKE	N
9 F-PORK	-20.0	-30.0	FREEZED PORK	
10 F-SALMON	-20.0	-30.0	FREEZED SALM	ION
11 F-TUNA	-20.0	-30.0	FREEZED TUNA	
12 POT-SALAD	12.0	20	ΡΟΤΔΤΟ SALAD	

An existing library

3. Select the second line.

ITEM	D]			Add to Send Data
No.	ITEM(LCD)	UP	LOW	ITEM(Comment)
1,	PORK CUTLET	90.0	80.0	PORK CUTLET
2	CROQUETTE	90.0	80.0	CROQUETTE
3	HAMBURGER	90.0	80.0	HAMBURGER STEAK
4	S-STEAK	90.0	80.0	STEAK SIZE S
5	M-STEAK	90.0	80.0	STEAK SIZE M
6	BACON	90.0	80.0	FLIED BACON
7	WIENER	90.0	80.0	WIENER
8	G-CHIKEN	90.0	80.0	GRILLED CHIKEN
9	F-PORK	-20.0	-30.0	FREEZED PORK
10	F-SALMON	-20.0	-30.0	FREEZED SALMON

4. Click [Add to Send Data].

The data for "CROQUETTE" appears in the [Setting File] window.

<mark>.</mark> ∯9674 - Setting File File Edit				
Comment:				Send
ITEM ID				
No. ITEM(LCD)	UP	LOW	ITEM(Comment)	_
1 CROQUETTE	90.0	80.0	CROQUETTE	
]			

5. In the [Library] window, select the third line.

ITEM	D			Add to Send Data
No.	ITEM(LCD)	UP	LOU	ITEM(Comment)
	PORK CUTLET	90.0	80.0	PORK CUTLET
2	CROQUETTE	90.0	80.0	CROQUETTE
3	HAMBURGER	90.0	80.0	HAMBURGER STEAK
4	S-STEAK	90.0	80.0	STEAK SIZE S
	M-STEAK	90.0	80.0	STEAK SIZE M

6. Click [Add to Send Data].

7. The data for "HAMBURGER" is added to the [Setting File] window.

Comme	ent:				Send
ITEM	ID				
No.	ITEM(LCD)	UP	LOW	ITEM(Comment)	<u> </u>
1	CROQUETTE	90.0	80.0	CROQUETTE	
2	HAMBURGER	90.0	80.0	HAMBURGER STEAK	

8. In the [Comment] entry box, enter the comment you want to send to the 3446-01/3447-01. (You can enter up to 20 characters.)



- The comment cannot be displayed on the 3446-01/3447-01. The comment is also loaded when measurement data is loaded onto your computer.
- You can only set one comment for each unit. Enter a description of the unit here.

🧧 9674 – Se	etting File					<u> </u>
<u>F</u> ile <u>E</u> dit						
Comment:	Restaurant1					Send
ITEM ID						
No. IT	EM(LCD)	UP	LOW	ITEM (Comme	nt)	
1 CR	OQUETTE	90.0	80.0	CROQUETTE		
2 HA	MBURGER	90.0	80.0	HAMBURGER	STEAK	

Creating Setting Files

9. Select [File], then [Save As] on the menu bar in the [Setting File] window.

10.Select the file name and location where you want to save the file.



11.Click [Save].



The maximum number of data items that can be registered in a setting file is 300 for items and 100 for IDs.

3.8 Sending Setting Data

You can send item and ID data to the 3446-01/3447-01 TEMPERA-TURE HITESTER from your computer.

A setting file is required in order to send setting data. Here, a setting file that has already been created is used. For information on how to create a setting file, see 3.7 "Creating Setting Files" (page 24).



When configuration data is sent, item, ID, and <u>measurement data</u> stored in the 3446-01/3447-01 is deleted. Before sending configuration data, make sure you download any important data onto your computer and save it.

Firstly, you must make communications settings. For information on how to make communication settings, see 3.2 "Communication Settings" (page 16).

 Select [File], then [Open Setting File] from the menu bar in the Main window. (The file extension for setting files must be ".hts".) The [Open] dialog box appears.

Open						? ×
Look jn: 🧲	Sample	Lib	- 1		<u>r</u>	=
in TestSet01 in TestSet02 in TestSet03 in TestSet04 in TestSet05 in TestSet05 in TestSet06	.hts Lhts Lhts Lhts Lhts Lhts	TestSet07.hts TestSet08.hts TestSet09.hts				
File <u>n</u> ame:	TestSe	et09.hts			<u>O</u> per	n
Files of <u>type</u> :	TEMP	HiTESTER Setting (*.)	nts)	•	Cance	el

Select the setting file that contains the data you want to send, then click [Open] to display the [Setting File] window.

5	96	74 - Setting File				_ 🗆 ×
1	Eile	<u>E</u> dit				
(Comr	nent Restaurant1				Send
	ITEN	1 ID				
l	No.	ITEM(LCD)	UP	LOW	ITEM(Comment)	
	1	PORK CUTLET	90.0	80.0	PORK CUTLET	
	2	CROQUETTE	90.0	80.0	CROQUETTE	
	3	HAMBURGER	90.0	80.0	HAMBURGER STEAK	
	- 4	S-STEAK	90.0	80.0	STEAK SIZE S	
	F	IM-STEAK	90 N	80 O	STEAK SIZE M	

Sending Setting Data

- 3. Check that the 3446-01/3447-01 TEMPERATURE HITESTER is turned on, the unit is in the record standby state (normal state for recording), and that the 3446-01/3447-01 is connected to the serial port specified on your computer using a communications cable.
- Click [Send]. The setting file [ITEM (LCD)] character string, [UP], [LOW], or [ID (LCD)] character string, or comment character string is sent to the 3446-01/3447-01.
- NOTE
- Setting file [ITEM (Comment)] and [ID (Comment)] character strings are not sent to the 3446-01/3447-01. Therefore, when receiving data from the 3446-01/3447-01, you must select a library in order to search for [ITEM (Comment)] or [ID (Comment)] character strings that correspond to [ITEM (LCD)] or [ID (LCD)].
- When a setting file is sent, item, ID, and measurement data stored in the 3446-01/3447-01 is deleted.
- 5. Click [Close] in the [Setting File] window to complete the data transfer.

3.9 Loading Measurement Data

You can load measurement data onto your computer from the 3446-01/3447-01 TEMPERATURE HITESTER. Firstly, you must make communications settings. For information on how to make communication settings, see 3.2 "Communication Settings" (page 16).

- 1. Make sure the 3446-01/3447-01 is turned on.
- 2. Select [Remote], then [Load Data] on the menu bar.

Sevent State							
Select library file you want to refer to							
Current Library	Open New Library						
No Reference	Cancel						

 Select a library in order to check the [ITEM (Comment)] and [ID (Comment)] character strings that correspond to [ITEM (LCD)] and [ID (LCD)] received from the 3446-01/3447-01.



When [Current Library] is selected:

The software checks the [ITEM (Comment)] and [ID (Comment)] character strings that correspond to [ITEM (LCD)] and [ID (LCD)] received from the library that is currently open. If no library is currently open, you cannot select this button.



When [Open New Library] is selected:

A new library is opened and checked.

When no library is currently open:

- 1. When the [Open] dialog box appears, select the new library you want to open.
- 2. Click [Open] to display the [Library] window.

Open			? ×
Look in: 🔂	SampleLib	- 🗈 💆	<u>n 10 10 10 10 10 10 10 10 10 10 10 10 10 </u>
 Test01Lib. Test02Lib. Test03Lib. Test04Lib. Test05Lib. Test05Lib. Test06Lib. 	ht a Test07Lib.ht ht Test08Lib.ht ht Test09Lib.ht ht Test10Lib.ht ht Test11Lib.ht ht Test12Lib.ht	🖪 Test13Lib.htl	
File <u>n</u> ame:	Test14Lib.htl		<u>O</u> pen
Files of type:	TEMP HITESTER Library	(*.htl)	Cancel



Loading Measurement Data

When a library is currently open:

 If you want to save the changes you made to the library file, click [Yes] in the [Save Library] dialog box to save the library that is currently open.

Save Library		×
	Save current library	
Yes	No	Cancel
		<u></u>

2. If you select [Yes], the [Save As] dialog box appears. Save the currently open library. If you select [No], the changes you made to the currently open library are not saved, and the dialog box closes.

Save As				? ×
Save jn: 🔂	Samplel	.ib	- 🗈 💆	*
Test01Lib. Test02Lib. Test02Lib. Test03Lib. Test04Lib. Test05Lib. Test06Lib.	hti hti hti hti hti	 Test07Lib.htl Test08Lib.htl Test08Lib.htl Test09Lib.htl Test10Lib.htl Test12Lib.htl 	Test13Lib.htl 🔊 Test14Lib.htl	
File <u>n</u> ame:	Test14	Lib.htl		<u>S</u> ave
Save as <u>t</u> ype:	TEMP	HiTESTER Library (*	'.htl) 💌	Cancel

3. When the [Open] dialog box appears, select the library you want to open.

Open				? ×
Look jn: 🔂	Samplel	.ib	- 🗈 💆	*
Test01Lib. Test02Lib. Test03Lib. Test04Lib. Test05Lib. Test05Lib. Test06Lib.	hti hti hti hti hti	 Test07Lib.htl Test08Lib.htl Test09Lib.htl Test10Lib.htl Test11Lib.htl Test12Lib.htl 	ia) Test13Lib.htl	
File <u>n</u> ame:	Test14	Lib.htl		<u>O</u> pen
Files of <u>type</u> :	TEMP	HiTESTER Library (*	.htl)	Cancel

When [No Reference] is selected: Blocks checking of the library. Therefore, ITEM (Comment) and ID (Comment) of received measurement data are empty.

When the [Data Reception] dialog box appears, check the communications cable connection and click [OK].

Data Reception	2	×
Check communicati	ion cable connection	
ОК	Cancel	

Data reception starts. (Do not start up or use any other applications during data reception.)

Data Reception	×
Receiving measurement data	
Stop	

When data reception is complete, the loaded measurement data is displayed as a data table.

8 96	74 C	OMMUNICATION UTILITY	ŕ								_ 🗆 🗙
Eile	Edi	t <u>R</u> emote <u>H</u> elp									
Dat	aTab	oleO1									
_ Inf	orma	tion									
1	Com	ment: 3446 3447 San	nple		Data: 30						
1	Seria	I No.: 2002-0142934			HI: 6						
	h	Andel: 3447 Sensor1			IN: 22						
					LU. 2						
No		DATE/TIME	101	ITEM(LCD)	ITEM(Comment)	COMF	UP	LOW	ID(LCD)	ID(Comment)	
	1	2002/02/12 14:21:51	87.9	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	_
_	2	2002/02/12 14:22:00	90.4	CROQUETTE	CROQUETTE	Hi	90.0	80.0	OP1	OPERATOR1	_
	3	2002/02/12 14:22:06	87.7	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	_
	4	2002/02/12 14:22:08	90.5	CROQUETTE	CROQUETTE	Hi	90.0	80.0	OP1	OPERATOR1	_
	-5	2002/02/12 14:22:20	80.3	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	_
	6	2002/02/12 14:22:21	79.7	CROQUETTE	CROQUETTE	Lo	90.0	80.0	OP1	OPERATOR1	_
	7	2002/02/12 14:22:24	84.9	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	_
	8	2002/02/12 14:22:26	83.4	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	_
	9	2002/02/12 14:22:29	82.6	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	_
	10	2002/02/12 14:22:32	80.1	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	
	11	2002/02/12 14:22:46	79.2	CROQUETTE	CROQUETTE	Lo	90.0	80.0	OP1	OPERATOR1	_
	12	2002/02/12 14:22:53	85.2	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	
	13	2002/02/12 14:22:56	87.7	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	_
	14	2002/02/12 14:22:57	93.0	CROQUETTE	CROQUETTE	Hi	90.0	80.0	OP1	OPERATOR1	
	15	2002/02/12 14:22:59	90.6	CROQUETTE	CROQUETTE	Hi	90.0	80.0	OP1	OPERATOR1	
	16	2002/02/12 14:23:00	82.5	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	
	17	2002/02/12 14:23:01	82.5	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	
	18	2002/02/12 14:23:02	82.6	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	
	19	2002/02/12 14:23:03	82.6	CROQUETTE	CROQUETTE	IN	90.0	80.0	OP1	OPERATOR1	
	20	2002/02/12 14:23:37	90.5	HAMBURGER	HAMBURGER S1	Hi	90.0	80.0	OP1	OPERATOR1	
	21	2002/02/12 14:23:38	90.4	HAMBURGER	HAMBURGER S1	Hi	90.0	80.0	OP1	OPERATOR1	
	22	2002/02/12 14:23:41	85.2	HAMBURGER	HAMBURGER S1	IN	90.0	80.0	OP1	OPERATOR1	
	23	2002/02/12 14:23:42	85.1	HAMBURGER	HAMBURGER S1	IN	90.0	80.0	OP1	OPERATOR1	
	24	2002/02/12 14:23:44	82.5	HAMBURGER	HAMBURGER S1	IN	90.0	80.0	OP1	OPERATOR1	
	051	2002/02/42 44:22 45	00.5		himmen a	061 1	00.0	00.0	0.04		الحمي
للغر	_		_			_	_	_			

For data measured using the 3447-01, if only one sensor was used, a single data table appears, and if two sensors were used, two data tables appear.

Up to 16 data tables can be displayed at any one time.

When using the 3447-01, if 15 or more data tables are already displayed, data reception may not be possible. Before receiving data, make sure that the number of data tables displayed is no greater than 14.

3.10 Saving Received Data

1. Select [File], then [Save Data Table] from the menu bar in the Main window.

The [Save File] dialog box appears.

Save File			×				
-Select th	ie data ta	ables you	want to save				
[1	[5	L 8	[] 13				
2	[6	[10	1 4				
Ш 3	□ 7	[] 11	[15				
□ 4	□ 8	[] 12	[] 16				
	Che	ck All					
-File Sav	e Format	1					
 Binary(.htb) Text(.csv) 							
Ok			Cancel				

 Select the number of the data table you want to save and the file format for saving.

When using the 9674, you can only open files in binary format (file extension ".htb").

3. Click [OK] to display the [Save As] dialog box. Select the file name and location where you want to save the file.

Save As			? ×
Save jn: 🔂 🤅	SampleData	- 🗈 💆	📸 🔳
SmpD at00.F SmpD at00.F SmpD at01.F SmpD at02.F SmpD at03.F SmpD at04.F SmpD at05.F SmpD at06.F SmpD at06.F	tb SmpDat08.htb tb SmpDat09.htb tb SmpDat10.htb tb SmpDat10.htb tb SmpDat11.htb tb SmpDat12.htb tb SmpDat13.htb tb SmpDat14.htb tb SmpDat15.htb	SmpDat16.htb SmpDat17.htb	
File <u>n</u> ame: Save as <u>t</u> ype:	SmpDat17.htb TEMP HiTESTER Binary (*.	htb)	<u>S</u> ave Cancel

4. Click [Save] to save the file.



- NOTE
- When multiple data tables are selected, you cannot save files in text format.

If multiple data tables are saved in a single file, you can only load the data table with the smallest data table number using COM-MUNICATION UTILITY for 3911.

- When using COMMUNICATION UTILITY for 3911, you can only load files in binary format (file extension ".htb").
- When using COMMUNICATION UTILITY for 3911, only interval recording data in the data table is displayed as a graph. Manual recording data is ignored.

File Sizes

The size of binary format data files is as follows.

(You can save up to 300 items and 100 IDs.)

The data file sizes given below are for a single data table. When using the 3447-01, if you use two sensors to measure data and then receive the measurement data, you can display two data tables, but the data size given below is for a single data table only. The file size for files saved in text format depends on the temperatures recorded and the number of characters used in the character string.

File format	Number of sensors used	Recording mode	Number of data items	Data size
Binary	1	Interval	28,800	505 KB
	2	Interval	14,400	260 KB
	1	Manual	7,200	138 KB
	2	Manual	4,800	98 KB

3.11 Clear Memory for the 3446-01/3447-01 TEMPERATURE HITESTER

You can clear the measurement data stored in the 3446-01/3447-01. (Item data and ID data is not cleared.)

Firstly, you must make communications settings. For information on how to make communication settings, see 3.2 "Communication Settings" (page 16).

1. Select [Remote], then [Clear Memory] on the menu bar in the Main window.

The [Clear Memory] confirmation dialog box appears.

Clear Memory	×
Clear measurement data in the 3446/3447 ?	
OK Cancel	

2. Click [OK] to clear the measurement data stored in the 3446-01/ 3447-01.



3.12 Printing

3.12.1 Printing Data Tables

1. Select [File], then [Open Data Table] from the menu bar in the Main window, and select the data table file you want to print and display it.

The data is loaded from the 3446-01/3447-01.



If multiple data tables are displayed, click the tab for the data table you want to print to bring that tab to the front of the screen.

2. Select [File], then [Print] from the menu bar. The [Print] dialog box appears.

Print		
Printer		
INFXSERVER	FX DocuColor 1255 Ser	ver PS J5 🗾
Paper Size	Orientation	Copies
A4	Portrait	1 🕂
C 85	🔿 Landscape	,
- Feed Method		
		🗖 Duplex
I AOTO		
Print Range		
 All Data 	Data Numher	
C Selected Data		
	<u> </u>	× 1
Prir	nt Canc	el

- 3. Make settings for the printer, paper orientation, number of copies, feed method, and print range.
- 4. Click [Print] to start printing.



- The 9674 only supports printing on A4-size paper. When using a general printer to print in the portrait orientation, up to 40 data items can be printed per page, and when printing in the landscape orientation, up to 26 data items can be printed per page.
- Depending on your computer, printer driver, and printer settings (local or network), you may not be able to set the paper orientation, number of copies, or feed method. In this case, change the default settings for the printer in [Printers] located in [Settings] on the Windows [Start] menu.

3.12.2 Printing Libraries and Setting Files

1. In the [Library] or [Setting File] window, select [Print] from [File] on the menu bar.

The [Print] dialog box appears.

Print		×
Printer		
NEUROPE1\F	AX_PRT	•
Paper Size	Orientation	Copies
A4	 Portrait 	1
C 85	C Landscape	
Feed Method		
AUTO	-	Duplex
TITEM or ID		
	010	
Print Range		
All Data	Data Number	
C Selected Data		
Prir	t Cancel	

- 2. Make settings for the printer, paper orientation, number of copies, feed method, print data, and print range.
- 3. Click [Print] to start printing.



- The 9674 only supports printing on A4-size paper. When using a general printer to print in the portrait orientation, up to 81 data items can be printed per page, and when printing in the land-scape orientation, up to 53 data items can be printed per page.
- Depending on your computer, printer driver, and printer settings (local or network), you may not be able to set the paper orientation, number of copies, or feed method. In this case, change the default settings for the printer in [Printers] located in [Settings] on the Windows [Start] menu.

3.13 Function List

Data table display function	Allows you to d different data ta	Allows you to display measurement data in up to 16 different data tables.			
Create/edit a library function	Allows you to c library.	reate or edit an item data or ID data:			
Communication function	Allows you to send measurement data transfer, configuration transfer, item character string, upper and lower limit, and ID character string data to the 3446-01/3447-01 TEMPERATURE HiTESTER.				
	Date transfer	Allows you to send the current date and time to the 3446-01/3447-01.			
	Clear memory	Allows you to clear the measure- ment data stored in the 3446-01/ 3447-01.			
	Receive mea- surement data	Allows you to receive measurement data, item character strings, upper and lower limits, and ID character strings from the 3446-01/3447-01. Further, you can search libraries for an item (product name) or ID (work- er name) that corresponds to a re- ceived item (display name) or ID (display name) character string.			
Print function	The 9674 only	y supports printing on A4-size			
File function	and setting file	s, libraries, and setting files.			

Displaying Graphs

To display data in a graph, COMMUNICATION UTILITY for 3911 must be installed.

For information on installing the software, see 2.1.2 "COMMUNI-CATION UTILITY for 3911" (page 9).

4.1 Opening Measurement Data Files

Start up COMMUNICATION UTILITY for 3911. 1. Select [File], then [Open] from the menu bar.



2. Select the file you want to open, and then click [Open]. (You can only open files with the file extension ".htb" or ".hlb" (files created using a HIOKI logger series).)

Specify file name	e to load.		? ×
Look jn: 🔂 Sa	mpleData	- 🗈 💆	<u>r 📰</u>
SmpD at00.htb SmpD at01.htb SmpD at02.htb SmpD at02.htb SmpD at03.htb SmpD at04.htb SmpD at05.htb	SmpDat06.htb SmpDat07.htb SmpDat07.htb SmpDat08.htb SmpDat09.htb SmpDat10.htb SmpDat11.htb	a) SmpDat12.htb SmpDat13.htb SmpDat14.htb SmpDat15.htb SmpDat16.htb SmpDat17.htb	
File <u>n</u> ame: Sr	npDat17.htb		<u>O</u> pen
Files of <u>type</u> : Bi	nary(*.hlb;*.htb)	•	Cancel



3. In the [Specify destination channel] dialog box, select the checkbox for the item you want to display in a graph. By aligning the mouse pointer with "CH x -->", you can display the ITEM (comment), serial number, and unit for the channel in the channel information column.

Specify destination channel Select channel for loading from file and specify destination channel to Channel information below mou Comments : CROQUETTE Serial number : 2002-0142930 Unit : *C	save data in. use curser.
СН1> СН1 💌	CH9>
CH2> CH2 -	CH10>
🗆 СНЗ> СНЗ 💌	CH11>
CH4>	CH12>
CH5>	CH13>
CH6>	CH14>
□ GH7> 🔽	CH15>
CH8>	CH16>
Start loading	Cancel

4. Click the [Start loading] button to load the data and display the graph.



4.2 Graph Operation

Scrolling measurement data

Click horizontal axis slider button or drag horizontal scroll bar to move time axis.



Click vertical axis slider button or drag vertical axis scroll bar to move vertical axis.





Measuring with A/B cursors

Click cursor control button to move cursor A and cursor B sideways.



Drag cursor A/B scroll bars to move cursors.

Select with a check to calculate maximum, minimum, average value between cursor A/B.

Magnifying with mouse selection

- 1. Use mouse button left to drag and select the area to be magnified with box cursor.
- 2. Click mouse button right to select [Zoom Selected Area].



3. When graph is magnified and scale is modified, click [Mem scale] to store the scale. Up to five recent scales can be stored.



Settings for graph magnification, display position and grid are available by selecting [Graph] on the menu bar.



Operating displayed data

Displays maximum, minimum, average value in all data etc. Click CH button to set waveform display ON/OFF. Click waveform display color box to change display color.



Double click either value or unit cell to display average value of selected CH data in center of graph. Double click comment cell to change comment.

NOTE

Displays single graph with up to 16 channels of data recorded regardless of recorder type, time and date of recording, interval or unit.

Graph type settings

The graph type (line graph, bar graph) can be set individually for each channel. (This function can only be used with data that was measured using a HIOKI logger series.)

To alter the settings, first select [CH Settings] from [Graph] on the menu bar. In the [CH Settings] window, select the [Bar Graph] checkbox for the channel to be displayed as a bar graph. Press the [OK] button to complete the settings.





In addition to settings for specific graph types, channel on/off, comments, and data display color can be set from the "CH Settings" window.



Printing data

Go to [File] and select [Print Graph] or [Print Data] to print data.



Copying graph

Go to [Edit] on the menu bar and select [Copy] to print graph. Graph's display area is copied onto clipboard in BMP format. Copied graph can be pasted to a document in other applications.





The clipboard is part of computer memory that temporarily stores copied data.

"Other applications" are applications that can load BMP data such as Word, etc.

Processing Loaded Data

You can sort, delete, or scale the loaded data for each channel. (This function can only be used with data that was measured using a HIOKI logger series.)

- 1. Select [Process Data], then [Scaling] from the menu bar. The [Scaling] dialog box appears.
- 2. The loaded data is processed.

	OMMU	NICATION UTIL	ITY for 3911					
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Scaling formula can be registered. Register frequently used scaling formula.



Scaling is a function to multiple loaded data by designated coefficient or to set offset value.

4.3 List of Functions

COMMUNICATION UTILITY for 3911 functions

Display	Displays single	graph with up to 16 channels of				
functions	data recorded regardless of recorder type, time and date of recording, interval or unit.					
	Graph display	Displays recording data change and cursor A and B. Line and bar graph displays can be set individually for each chan- nel.				
	Data informa- tion list	Displays channels, comments, cursor A/B value, maximum aver- age, minimum average, average value and unit.				
	Data tables	Displays channels, comments, serial numbers, data number, measurement date, time, record- ing data and unit.				
Editing functions	Copying graph	Copies graph display area into clipboard.				
	Data process- ing	Enables scaling, power calcula- tion, cost calculation for power consumption, utilization calcula- tion, cumulative calculation, order- ing and deleting channels.				
Print functions	Capable to print	Capable to print to A3, A4 and B4 paper.				
File functions	Allows you to print graphs and data lists. (You can specify all of the data, or the data between the A and B cursors.) Saves data, reads loaded data and generates text file can be exported to spread sheet application software.					

4.4 Saving Measurement Data

1. Select [File], then [Save] from the menu bar. The [Save Selected Channel] dialog box appears.

Save selec	Save selected channel				
- Select cha	nnel to be sa	ved.			
CH1	🗖 CH5	CH9	🗖 CH13		
CH2	🔲 CH6	🗖 CH10	CH14		
🗖 CH3	🗖 GH7	🗖 GH11	🗖 CH15		
CH4	CH8	🗖 GH12	🗖 CH16		
Select file f	ormat.				
Text fo	rmat	C Comma	delimited		
🔽 Binary I	ormat	O Tab delimited			
		C Space	delimited		
(0k)	Ca	ancel		

2. Select the channel you want to save and the file format for saving.

Click [OK] to display the dialog box for selecting the file name and location where you want to save the file.

Specify file n	ame to load.				? ×]
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3. Click [Save] to save the file.



- Data saved in text file format (file extension ".csv") cannot be opened using COMMUNICATION UTILITY for 3911.
- Here, data saved in binary file format (file extension ".hlb") cannot be opened using 9674 COMMUNICATION UTILITY.



HIGKI Saving Measurement Data



Specifications

Specifications for communicating between the 3446-01/3447-01 TEM-PERATURE HITESTER and 9674 are as follows:

Item	Setting value
Transmission speed	19200 bps
Bit length	8 bits
Stop bit	1 bit
Parity	No
X flow	No
Hard flow	No
Delimiter	CR+LF

Specifications for the RS-232C cable are as follows:

Cable length	2 m
Connector type	Special connector (3446-01/3447-01 side) Dsub-9pin female (PC side)
Operating Tempera- ture & Humidity	0 to 40°C (32 to 104°F), 80%RH or less (no condensation)
Storage Temperature & Humidity	-10 to 50°C (14 to 122°F), 80%RH or less (no condensation)



Specifications for printers compatible with the 3446-01/3447-01 are as follows:

Check the specifications and settings for the printer before connecting it to the TEMPERATURE HITESTER.

Interface	RS-232C
Characters per line	Greater than 40 characters
Transmission speed	19200 bps
Data bit	8 bit
Parity	No
Stop bit	1 bit
Flow control	Xon/off



The connector terminal functions of the RS-232C cable supplied with the 9674 RS-232C PACKAGE are as follows: Connector type: Dsub-9 pin (female)

Pin No.	Signal name	Function
1	NC	Not connected
2	TxD	Send data
3	RxD	Receive data
4	NC	Not connected
5	GND	Ground
6	NC	Not connected
7	NC	Not connected
8	NC	Not connected
9	NC	Not connected



With some types of printer, an adapter is required between the cable and the printer.

With the optional 9670 printer, please connect the following adapter between the cable and the printer. Dsub-9 pin (male)↔Dsub-25pin (male)

Maintenance and Service

6.1 Cleaning

To clean the product, wipe it gently with a soft cloth moistened with water or mild detergent. Never use solvents such as benzene, alcohol, acetone, ether, ketones, thinners or gasoline, as they can deform and discolor the case.

6.2 Service

If the product seems to be malfunctioning, contact your dealer or Hioki representative.



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All inquiries to Sales and Marketing International Department 81 Koizumi, Ueda, Nagano, 386-1192, Japan TEL: +81-268-28-0562 / FAX: +81-268-28-0568 E-mail: os-com@hioki.co.jp URL http://www.hioki.co.jp/

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HIOKI E.E. CORPORATION

HEAD OFFICE

81 Koizumi, Ueda, Nagano 386-1192, Japan TEL +81-268-28-0562 / FAX +81-268-28-0568 E-mail: os-com@hioki.co.jp / URL http://www.hioki.co.jp/

HIOKI USA CORPORATION

6 Corporate Drive, Cranbury, NJ 08512, USA TEL +1-609-409-9109 / FAX +1-609-409-9108

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