

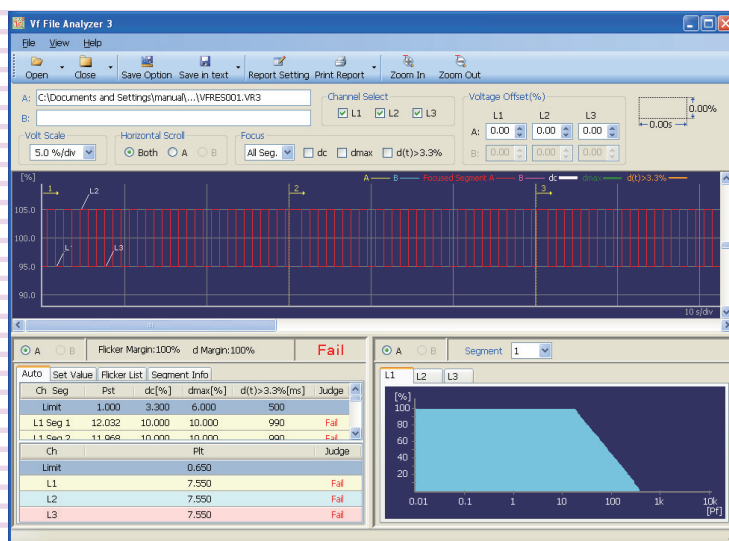
**KIKUSUI**IX000262
Apr 2011

Operation Guide

Application Software

Vf File Analyzer 3

Ver. 2.2



About This Guide

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Introduction

This operation guide explains how to:

- Analyzes the data of a test results file that is acquired during a voltage fluctuation test using HarmoCapture3 or acquired with KHA3000, and
- Print reports of test result files.

■ Product versions that this guide covers

This operation guide applies to Vf File Analyzer 3 with version 2.2.

You can check the version from the help menu **Vf File Analyzer 3**.

■ Who should read this operation guide?

The intended audience of this operation guide is anyone using the KHA3000 to control a harmonic current and voltage fluctuation test system or anyone teaching operators how to use such a system.

Explanations are given under the presumption that the reader has electrical knowledge related to harmonic current and voltage fluctuation tests.

■ Trademark acknowledgements

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■ Notations used in this guide

- The KHA3000 Harmonic/Flicker Analyzer may be called the KHA3000.
- "Personal computer" and "PC" are generic terms for personal computers and workstations.
- The following symbols are used with the explanations in this guide.



CAUTION

This symbol indicates a potentially hazardous situation. Ignoring the symbol may result in damage to the product or other property.

NOTE

Indicates information that you should know.

What is Vf File Analyzer 3?

Vf File Analyzer 3 is application software that analyzes the data of a test results file (xxx.vr3) that is acquired during a voltage fluctuation test using HarmoCapture3 or acquired with KHA3000. Vf File Analyzer 3 operates without being connected to the KHA3000.

Vf File Analyzer 3 can be used to:

- Load the voltage fluctuation test results file acquired by the KHA3000 or HarmoCapture3.
- Display test results lists (pass/fail judgment and segment information list.)
- Display graphs (the maximum dc, the maximum dmax, and the maximum time over which d(t) exceeds 3.3 %.)
- Save test results files as text.
- Print reports (comments, test conditions, results lists, and various waveform graphs.)

Opening a Test Results File

You can open two test result files at the same time in Vf File Analyzer3. The files are displayed as test data A and test data B.

You can open test result files that you have already opened [from the file list](#).

Opening a Test Results File Acquired by HarmoCapture3

1 In the toolbar, click the ▼ next to **Open** and select **File A** or **File B**.

The **FileA(B) Open** dialog box appears.

If you click **Open**, priority is given to file A, and the **FileA Open** dialog box appears.

2 Select the file that you want to open.

The test results file name extension for voltage fluctuation tests is .vr3.

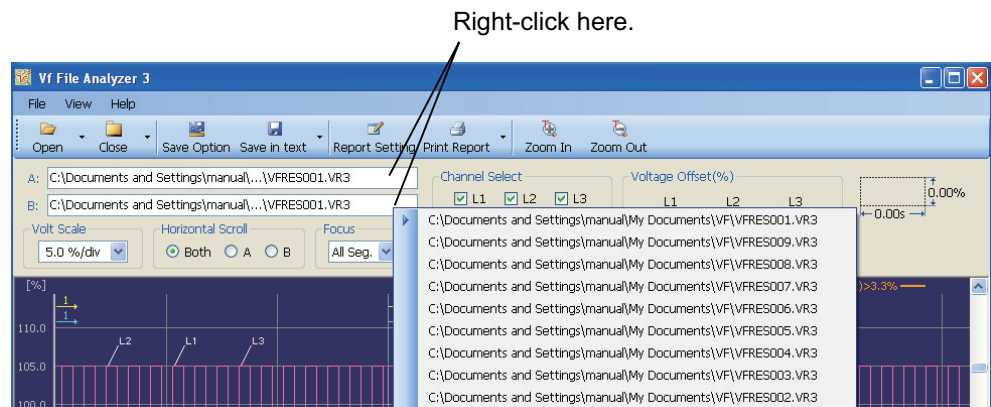
Opening a Test Results File Acquired by the KHA3000

Follow the procedure below to load a test condition file that was acquired on the KHA3000 to the PC and open it with Vf File Analyzer 3.

- 1** Remove the storage media (CompactFlash card or USB flash drive) that contains the test conditions from the KHA3000.
- 2** Connect the storage media to the PC.
- 3** Load the test condition file from the storage media to the PC.
- 4** In the toolbar, click the ▼ next to **Open** and select **File A** or **File B**.
The **FileA(B) Open** dialog box appears.
If you click **Open**, priority is given to file A, and the **FileA Open** dialog box appears.
- 5** Select the file that you want to open.
The test results file name extension for voltage fluctuation tests is .HR3.

Opening a Previously Opened Test Result File

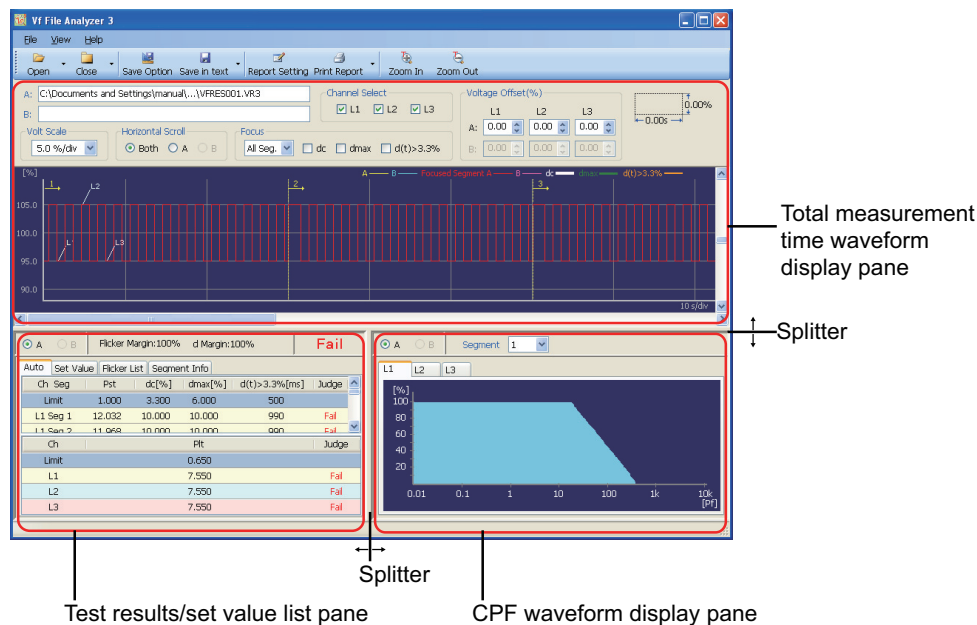
- 1** Right-click the text box next to **A:** or **B:**.
A list of previously opened files appears.
Up to nine previous entries are stored in the boxes' lists. The oldest entry is removed first.



- 2** Select the file that you want to open from the list.

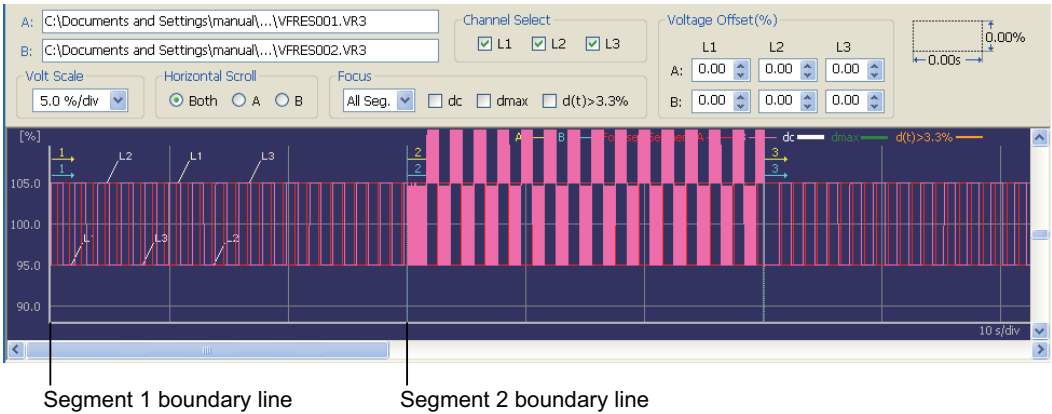
Window Configuration

The window is divided into three panes.
You can drag the splitters to resize the panes.



Item	Description
Total Measurement Time Waveform Display Pane p. 7	Displays the voltage fluctuation waveform of each measurement time. Each measurement time is connected together along the time axis. The vertical axis represents the voltage ratio with respect to the nominal voltage in terms of a percentage. The horizontal axis represents the elapsed time in unit of seconds. Test data A and B are displayed simultaneously.
Test Results/Set Value List Pane p. 9	Displays the test results list and test conditions. The judgment result of each segment and the final judgment over all the measurement times are displayed. You can click the tab to switch between the test results list and test conditions data displays. Select test data A or B to be displayed.
CPF Waveform Display Pane p. 13	Displays a graph of the CPF (cumulative probability function). You can view the probability distribution of voltage fluctuations. Select test data A or B to be displayed.

Total Measurement Time Waveform Display Pane

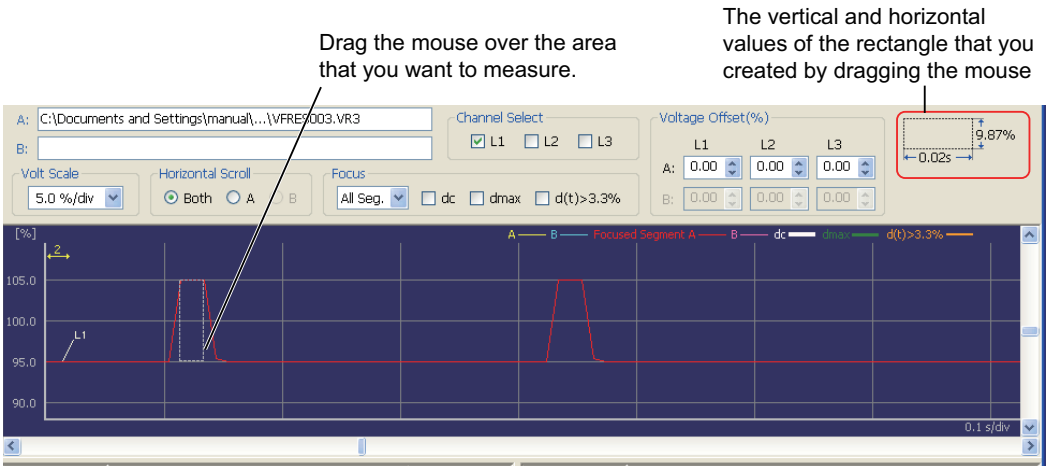


Item	Description
A and B	The full paths of the files that you specified as test data A and B are displayed in these text boxes. Lower-level folder names that do not fit into the boxes are indicated with ellipses ("..."). When you move the pointer over the text box, the full path is displayed in a tooltip. If you right-click the text box, a list of the previous nine file names that you have entered previously is displayed.
Channel Select	Select the data that you want to display.
Volt Scale	Used to select the graph along the voltage fluctuation ratio axis (vertical axis).
Horizontal Scroll	Used to specify the test data that is scrolled along the time axis. Select Both to scroll both test data A and B. Select A to scroll only test data A. Select B to scroll only test data B.
Focus	Vertical lines with arrows and numbers indicate the boundaries between segments. The segments are arranged in order by segment number from the left edge of the graph. Specify the segments that you want to display in the Focus box. If you select dc , dmax , or d(t) > 3.3 % , the items that you select are highlighted with different colors.
Voltage offset	Used to offset a waveform vertically for easier viewing if waveforms A and B are overlapped. Enter a positive value to shift the waveform up or a negative value to shift it down. You can adjust a value by using the arrows to its right.

Total Measurement Time Waveform Display Pane (continued)

Measuring the voltage fluctuation ratio and the time

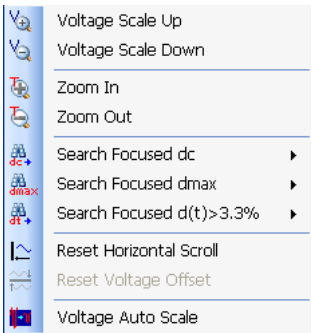
You can measure the voltage fluctuation ratio (vertical axis) and time (horizontal axis) at any location on the graph. When you drag the mouse and create a rectangle, its vertical and horizontal values are displayed in the upper right of the pane.



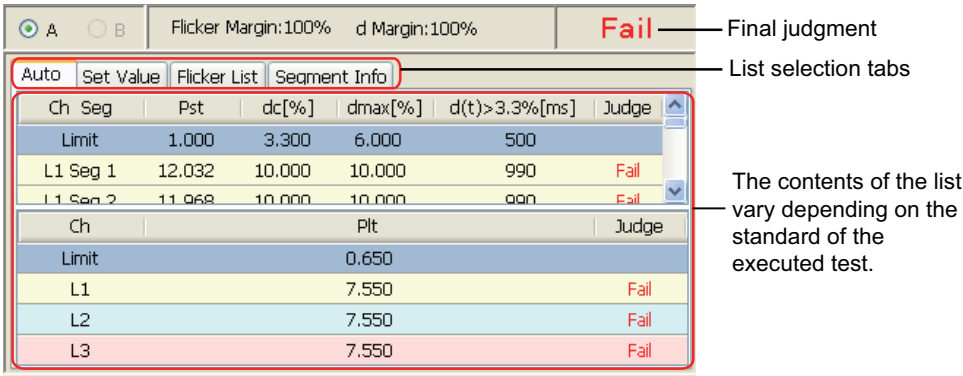
Context menu

See p. 22

Right-click the graph area to display a **Context menu**. A number of useful features for observing waveforms are arranged in the context menu. Features that cannot be used because of the current condition of the waveform are dimmed.



Test Results/Set Value List Pane



Item	Description
A and B	Used to select the test data, A or B, to be displayed in the test results/set value list pane.
Flicker Margin	The flicker margin (as a percentage) that has been specified in the HarmoCapture3 or KHA3000 test conditions. This value does not appear when d measurement is performed manually.
d Margin	The d margin (as a percentage) that has been specified in the HarmoCapture3 or KHA3000 test conditions.
Final judgment	Displays the final pass/fail judgement from the judgement of each segment. Pass : Less than equal to the specified margin Warn : Greater than the specified margin but less than the limit value Fail : Greater than the limit value
List selection tabs	Select the list that you want to display. The name of the tab on the far left indicates the standard of the executed test. Auto : IEC61000-3-3(Pst Auto) Manual : IEC61000-3-3(Manual) 3-11 : IEC61000-3-11 Ed1.0

Test Results/Set Value List Pane (continued)

■ Items in the test results list for IEC61000-3-3(Pst Auto)

Auto					
Set Value Flicker List Segment Info					
Ch Seg	Pst	dc[%]	dmax[%]	d(t)>3.3%[ms]	Judge
Limit	1.000	3.300	6.000	500	
L1 Seg 1	12.032	10.000	10.000	990	Fail
L1 Seg 2	11.968	10.000	10.000	990	Fail
Ch	Plt				Judge
Limit	0.650				
L1	7.550				Fail
L2	7.550				Fail
L3	7.550				Fail

Item	Description
Ch Seg	Phase and segment number
Pst	Short-term flicker value in one segment time.
dc [%]	Maximum value of the relative steady-state voltage fluctuation in one segment time.
dmax [%]	Maximum value of the maximum relative voltage fluctuation in one segment time.
d(t) > 3.3 % [ms]	Maximum value of the time during which d(t) exceeds 3.3 % in one segment time.
Judgment (each segment)	Indicates the pass/fail judgment of the voltage fluctuation and flicker in one segment time. Pass : Less than equal to the specified margin Warn : Greater than the specified margin but less than the limit value Fail : Greater than the limit value
Limit	Limit value of each item
Plt	Long-term flicker value over the total measurement time.
Judgment (Plt)	Indicates the pass/fail judgment of the long-term flicker value over the total measurement time. Pass : Less than equal to the specified margin Warn : Greater than the specified margin but less than the limit value Fail : Greater than the limit value

■ Items in the test results list for IEC61000-3-3 (Manual)

Manual			
Set Value Segment Info			
Ch Seg	dc[%]	dmax[%]	d(t)>3.3%[ms]
L1 Seg 1	0.117	3.013	0
L1 Seg 2	0.004	3.013	0
Ch Ave/Max	dc[%]	dmax[%]	d(t)>3.3%[ms]
Limit	3.300	6.000	500
L1 Average	---	3.024	---
L1 Maximum	1.004	3.061	0
L2 Average	---	0.070	---
L2 Maximum	0.013	0.109	0

Item	Description
Ch Seg	Phase and segment number
dmax [%]	Maximum value of the maximum relative voltage fluctuation in one segment time.

Item	Description
dc [%]	Maximum value of the relative steady-state voltage fluctuation in one segment time.
d(t) > 3.3 % [ms]	Maximum value of the time during which d(t) exceeds 3.3 % in one segment time.
Limit	Limit value of each item
Average	The average value of dmax in each segment.
Maximum	The maximum dmax, dc, and d (t) > 3.3 % (ms) values in each segment.

■ Items in the test results list for IEC61000-3-11

The screenshot shows a software window titled '3-11' with two tabs: 'Set Value' and 'Segment Info'. The 'Flicker List' tab is active, displaying a table with columns: Ch, Seg, Pst, dc[%], dmax[%], d(t)>3.3%[ms], and Judge. The 'Segment Info' tab is also visible, showing columns: Ch, Zmax, Zsys1, Zsys2, Zsys3, Zsys4, Plt, Plt Judge, and Ch Judge. The data rows show test results for L1 and L2 segments, with 'Fail' judgments for L1 and 'Pass' for L2.

Ch	Seg	Pst	dc[%]	dmax[%]	d(t)>3.3%[ms]	Judge
Limit		1.000	3.300	6.000	500	
L1	Seg 1	3.571	0.009	3.030	0	Fail
L1	Seg 2	3.567	0.009	3.043	0	Fail
L1	Seg 3	2.565	0.000	2.026	0	Fail

Ch	Zmax	Zsys1	Zsys2	Zsys3	Zsys4	Plt	Plt Judge	Ch Judge
L1	0.006	0.006	0.718	0.042	0.022	3.569	Fail	Fail
L2	0.187	0.187	0.718	31.740	16.633	0.043	Pass	Pass

Item	Description
Ch Seg	Phase and segment number
Pst	Short-term flicker value in one segment time.
dc [%]	Maximum value of the relative steady-state voltage fluctuation in one segment time.
dmax [%]	Maximum value of the maximum relative voltage fluctuation in one segment time.
d(t) > 3.3 % [ms]	Maximum value of the time during which d(t) exceeds 3.3 % in one segment time.
Judgment (each segment)	Indicates the pass/fail judgment of the voltage fluctuation and flicker in one segment time. Pass : Less than equal to the specified margin Warn : Greater than the specified margin but less than the limit value Fail : Greater than the limit value
Limit	Limit value of each item
Zmax	Calculated value of the maximum permissible system impedance
Zsys1, Zsys2 and Zsys3	Permissible system impedance value calculated after converting the measured values of dmax, dc and Plt with a set impedance
Zsys4	Permissible system impedance value calculated after converting the measured value of Plt with a set impedance
Plt	Long-term flicker value over the total measurement time.
Plt Judge	Indicates the pass/fail judgment of the long-term flicker value over the total measurement time. Pass : Less than equal to the specified margin Warn : Greater than the specified margin but less than the limit value Fail : Greater than the limit value
Ch Judge	Indicates the judgment made using the limit value. Pass : Less than equal to the specified margin Warn : Greater than the specified margin but less than the limit value Fail : Greater than the limit value

Test Results/Set Value List Pane (continued)

■ Set Value

The test conditions of the selected test results file is displayed.

Items	Contents
File Name	C:\Documents and Settings\...\VFRES001.VR3
File Version	1.01
Date of Test	7/9/2008 11:44:51 AM
Limitation Standard	IEC 61000-3-3 Pst Auto
Measurement Technic	IEC 61000-4-15 Ed1.1
Voltage Range	L1 300V, L2 300V, L3 300V
Current Range	L1 0.5A, L2 0.5A, L3 0.5A
Nominal Voltage	230V

■ Flicker List

The elements of a flicker are displayed.

Ch	Seg	Pst	P0.1	P1s	P3s	P10s	P50s
L1	Seg1	12.032	376.704	374.412	360.869	293.085	93.821
L1	Seg2	11.968	376.704	372.120	356.491	288.154	96.920
L1	Seg3	11.957	376.704	372.120	356.491	287.253	96.920
L2	Seg1	12.032	376.704	374.412	360.869	293.085	93.821
L2	Seg2	11.968	376.704	372.120	356.491	288.154	96.920
L2	Seg3	11.957	376.704	372.120	356.491	287.253	96.920
L3	Seg1	12.032	376.704	374.412	360.869	293.085	93.821
L3	Seg2	11.968	376.704	372.120	356.491	288.154	96.920

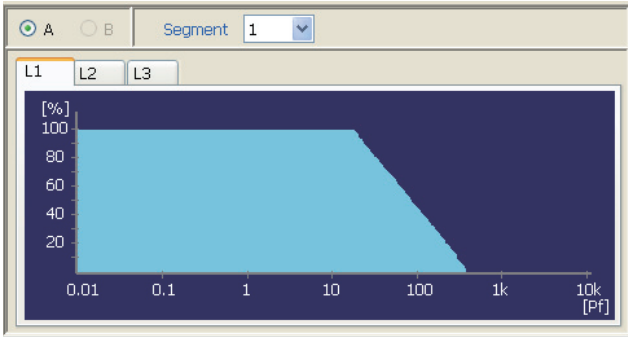
Item	Description
Pst	Short-term flicker value in one segment time.
P0.1, P1s, P3s, P10s and P50s	Parameters for Pst calculation

■ Segment Info

Ch	Seg	Start dc	Start dmax	Start d(t) > 3.3%	Steady Count
L1	Seg1	0.0 s	0.0 s	0.0 s	31
L1	Seg2	0.5 s	0.5 s	0.5 s	30
L1	Seg3	0.4 s	0.4 s	0.4 s	30
L2	Seg1	0.0 s	0.0 s	0.0 s	31
L2	Seg2	0.5 s	0.5 s	0.5 s	30
L2	Seg3	0.4 s	0.4 s	0.4 s	30
L3	Seg1	0.0 s	0.0 s	0.0 s	31
L3	Seg2	0.5 s	0.5 s	0.5 s	30

Item	Description
Start dc	The start time of the dc in the segment
Start dmax	The start time of the dmax in the segment
Start d (t) > 3.3 %	The start time of the d(t) > 3.3 % (ms) in the segment
Steady Count	The steady-state condition count in the segment

CPF Waveform Display Pane



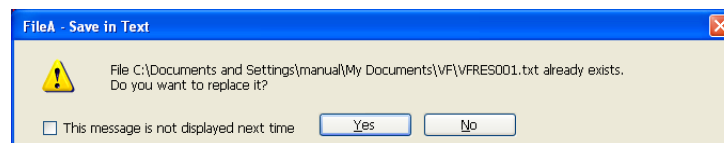
Item	Description
A and B	Select the test data (A or b) that you want to display.
Segment	Select the segment that you want to display.
L1, L2 and L3	Select the phase that you want to display.

Saving a Test Results File as Text

A test results file can be saved as text for use in Microsoft Excel and other application software.

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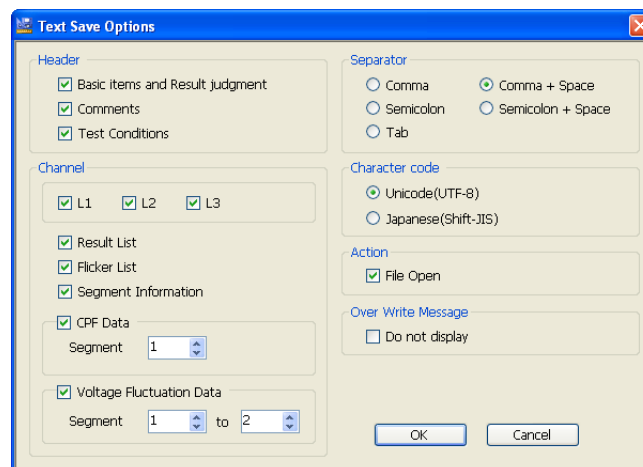
- 1 Click the **Save Option** button on the toolbar.
The **Text Save Options** dialog box is displayed.
- 2 Select an item to be saved as a text file.
- 3 Click the **OK** button.
- 4 In the toolbar, click the ▼ next to **Save in text** and select **File A** or **File B**.
The **FileA(B) - Save in Text as** dialog box is displayed.
- 5 Enter a file name and select file extension **.txt** or **.csv**.
- 6 Click the **Save** button.
If a text file with the same name already exists, the message is displayed.



If you select the **This message is not displayed next time** check box, the message will not appear the next time. You can clear this check box in the **Text Save Options** dialog box.

Text Save Options

Click the **Save Option** button on the toolbar to display the **Text Save Options** dialog box. In the **Text Save Options** dialog box, you can specify which options can be selected when you save the test results to a text file.



■ Header

Check the items that you want to save.

Item	Description
Basic items and Result judgment	Test date, Version of test results file
Comments	Information on EUT (memo, model name, type, and serial number) (The comments and test information included in the test result file)
Test conditions	Test conditions information (measurement method, standard, voltage/ current range, nominal voltage/frequency, Pst/d measurement time, Pst/d measurement count, over range abort, dmax limit values, flicker margin, and d margin)

■ Channel

Check the items that you want to save.

Item	Description
L1, L2 and L3	Phase data selection
Result List	Final judgment result and margin for a limit value (dc, dmax and d(t)>3.3%)
Flicker List	Elements of a flicker (P0.1, P1s, P3s, P10s and P50s)
Segment Information	Start dc, Start dmax and Start d (t) > 3.3 % and Steady Count
CPF Data	Probability distribution of voltage fluctuations Specify the segment of the data that you want to save.
Voltage Fluctuation Data	Specify the segments of the data that you want to save.

■ Separator

Select the text separator.

■ Character code

Set the character code of a text file.

Item	Description
Unicode (UTF-8)	Save it in a test file that supports Unicode (UTF-8).
Japanese language (Shift-JIS)	Save it in a text file that supports the Japanese language (Shift-JIS).

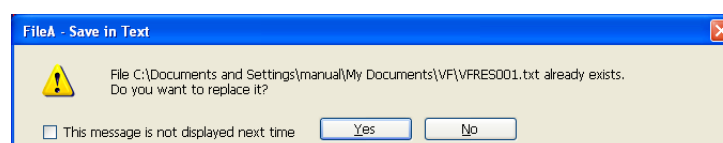
■ Action

After the text file is saved, you can open it with the software that text files are associated with.

■ Over Write Message

If you save a file with the same name already exists, a file overwrite message appears. The **Do not display** check box is used to enable or disable this message.

If you select the **This message is not displayed next time** check box in the file overwrite dialog box, the **Do not display** check box in the **Text Save Options** dialog box is also selected. If you clear the **Do not display** check box, the PDF file overwrite message is enabled.



Printing a Report

Reports are printable PDF files of test result files. Numeric value data, various waveform graph, segment information and setting list can be printed. You can include comments in reports, such as the company name and test environment.

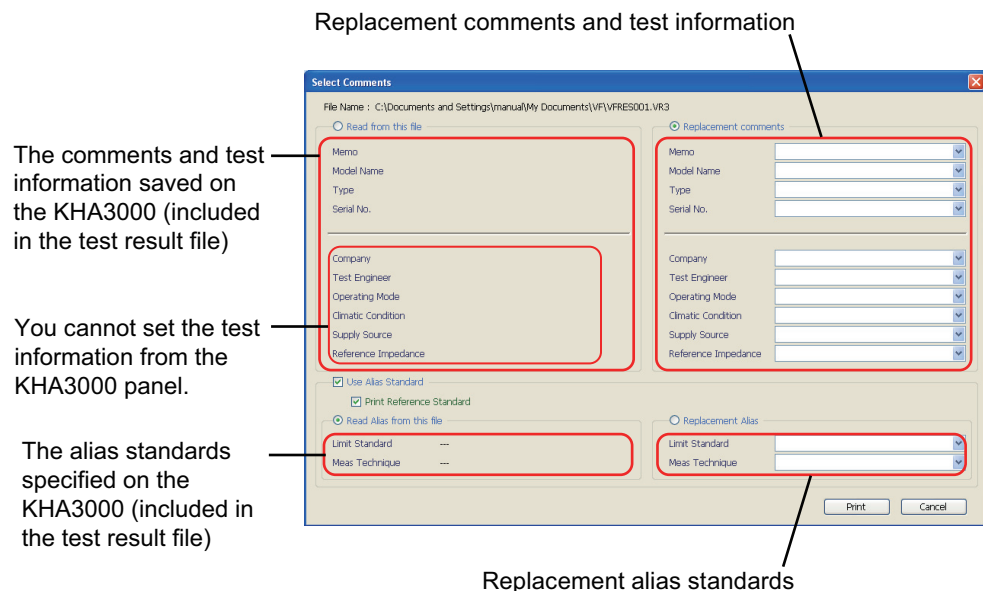
Reports are automatically saved in the same folder as test result files using the same file name as the test result file that they are converted from and a .pdf extension.

NOTE

To print PDF files, you need a PDF viewing application such as Adobe Reader.

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- 1 On the results list pane, select the results file to be printed in a report.
- 2 Open the **Report Setting** dialog box, and select the data to print.
- 3 Click **Print Report** on the toolbar.
The **Select Comment** dialog box appears.



4 Select the comments, test information, and test standard that you want to print on the report.

Item	Description
Read Comments from this file	The comments and test information in the test result file are printed on the report.
Replacement comments	The comments and test information in the box are printed on the report.
Use Alias Standard	Select this option to print standard names other than the default standard names on the report.
Print Reference Standard	Select this option to print on the report the standard names also that are displayed when you select the test standards using the KHA3000 or the HarmoCapture3.
Read Alias from this file	The alias standards specified on the KHA3000 are printed on the report.
Replacement alias	The alias standards in the Report Setting dialog box are printed on the report.

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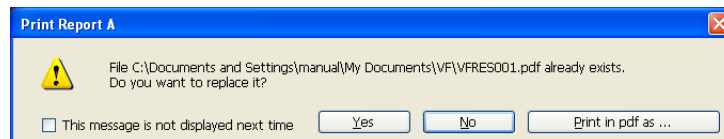
For more information about replacement comments, see "Entering Comments, Test Information and Alias Standard."

5 Click **Print**.

Your PDF viewing application (such as Adobe Reader) starts, and the report appears.

■ When a PDF file with the same name exists

The message is displayed.



Click **Print in pdf as** to save the report as a PDF file with a different file name.

If you select the **This message is not displayed next time** check box, the message will not appear the next time. You can clear this check box in the **Report Setting** dialog box.

6 Print the report from your PDF viewing application.

Entering Comments, Test Information and Alias Standard

You can print the comments, test information, and alias standards that you enter in the **Select Comment** dialog box.

The information that you enter into the boxes is registered when you click **Print**. Up to eight previous entries are stored in the boxes' lists. The oldest entry is removed first.

The screenshot shows a dialog box titled 'VFRES001.VR3'. It contains three main sections, each with a red box highlighting its input fields:

- Replacement comments:** Includes fields for Memo, Model Name, Type, and Serial No. A label 'Comments' points to this section.
- Replacement test information:** Includes fields for Company, Test Engineer, Operating Mode, Climatic Condition, Supply Source, and Reference Impedance. A label 'Test information' points to this section.
- Replacement Alias:** Includes fields for Limit Standard and Meas Technique. A label 'Alias standard' points to this section.

At the bottom of the dialog box are 'Print' and 'Cancel' buttons.

■ Comments and test information

For each of these sets of comments and test information, the maximum number of characters that can be printed on reports is 20 characters. You can enter text that exceeds 20 characters, but only the first 20 characters will be printed.

Memo:

Model Name: The name of the EUT

Type: The model number of the EUT

Serial No. : The serial number of the EUT

You cannot set the test information from the KHA3000 panel.

Company:

Test Engineer:

Operating Mode:

Climatic Condition:

Supply Source:

Reference

Impedance:

■ Alias standard

You can enter up to 31 characters for the alias standards.

Deleting characters

Press **Delete** to delete a character. To clear a combo box, enter one space. If you do not enter any characters, the corresponding comment is not updated. After you close the dialog box, the previous comment will return.

Configuring the Report Format

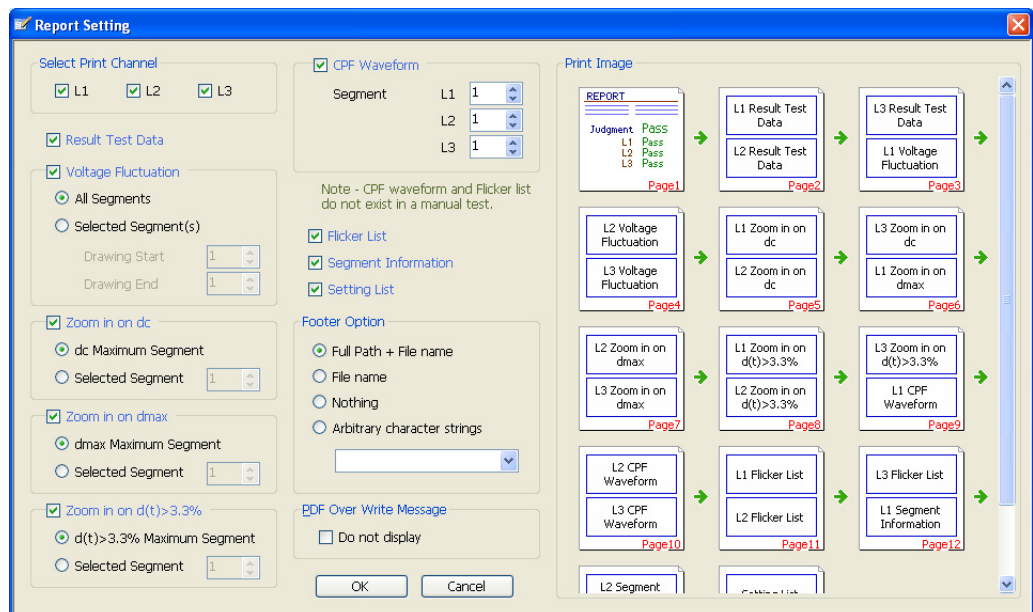
In the **Report Setting** dialog box, you can:

- Select the data to print.
- Enable or disable the PDF file overwrite message.

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Selecting which Data to Print

You can select which phase data (L1, L2, and L3) and graphs to print in reports using the check boxes. After selecting which data to print, you can preview how the report will be printed.



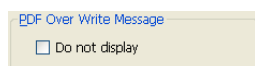
Item	Description
Select Print Channel	The phase data that will be printed (L1, L2, and L3).
Result Test Data	Final judgment result and margin for a limit value (dc, dmax and d(t)>3.3%)
Voltage Fluctuation	The ratios of dc, dmax, and d(t) > 3.3 % to the measurement time are printed as a voltage fluctuation waveform. You can select to print the waveform for All Segments or for Selected Segment(s) . To print the waveform for a selected group of segments, specify the Drawing Start and Drawing End segments. You can select up to 24 segments.
Zoom in on dc	You can select to print the waveform for dc Maximum Segment or for Selected Segment . To print the waveform for a selected segment, specify the segment.
Zoom in on dmax	You can select to print the waveform for dmax Maximum Segment or for Selected Segment . To print the waveform for a selected segment, specify the segment.

Selecting which Data to Print (continued)

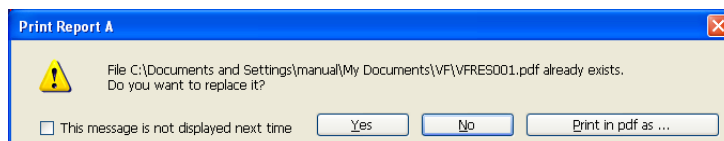
Item	Description
Zoom in on d(t) > 3.3%	You can select to print the waveform for d(t)>3.3% Maximum Segment or for Selected Segment . To print the waveform for a selected segment, specify the segment.
CPF Waveform	The probability distribution of voltage fluctuations is printed. Specify a segment for each phase.
Flicker List	You can print elements of a flicker (P0.1, P1s, P3s, P10s, and P50s.)
Segment Information	You can print the start time of dc, dmax and d (t)>3.3%, and the steady-state condition count.
Setting List	Prints a list of test conditions.
Footer Option	Adds a footer to a report. You can select any one of Full path + File name , File name , Nothing , or Arbitrary Character Strings . The character strings that you enter in the Arbitrary Character Strings combo box are stored, when you click the OK . Up to eight of the most recent characters are stored.

PDF Overwrite Message

If you select a test result file that you have printed before, a PDF file overwrite message appears. The **Do not display** check box is used to enable or disable this message.



If you select the **This message is not displayed next time** check box in the PDF file overwrite dialog box, the **Do not display** check box in the **Report Setting** dialog box is also selected. If you clear the **Do not display** check box, the PDF file overwrite message is enabled.



Menu Reference

Menu	Description
File	
Open... ^{*1, *2}	Opens a test condition file (.vr3 extension) that you created using HarmoCapture3 or a test condition file that you saved on the KHA3000.
Close ^{*1, *2}	Closes a test results file.
Save in text As... ^{*1, *2}	Saves a test results file in text or CSV format with another name.
Text Save Options... ^{*1}	You can specify which options can be selected when you save the test results to a text file.
Report Setting... ^{*1}	You can specify which phase data (1, L2, and L3) and graphs to print in reports.
Print Report... ^{*1, *2}	Creates a report (PDF) from a test results file and prints it.
Exit	Exit from Vf File Analyzer 3.
View	
Zoom In-main graph ^{*1, *3}	Expands along the time axis the waveform selected.
Zoom Out-main graph ^{*1, *3}	Reduces along the time axis the waveform selected.
Reset Horizontal Scroll ^{*3}	Resets the waveform that had been scrolled along the time axis in the total measurement time waveform display pane to the original position.
Reset Voltage Offset ^{*3}	Resets the waveform that had been moved along the voltage fluctuation ratio axis in the total measurement time waveform display pane to the original position.
Help	
Contents (Japanese)	Opens the Vf File Analyzer 3 Japanese Operation Guide.
Contents (English)	Opens the Vf File Analyzer 3 English Operation Guide.
User's Manual (Japanese)	Opens the Vf File Analyzer 3 Japanese PDF Operation Guide.
User's Manual (English)	Opens the Vf File Analyzer 3 English PDF Operation Guide.
About Vf File Analyzer 3...	Displays the version of Vf File Analyzer 3.

*1 The toolbar provides buttons.

*2 You can select the test data A or test data B file.

*3 You can select this menu item by right-clicking in the total measurement time waveform display pane.

Context menu

(When right-clicking in the total measurement time waveform display pane)

Menu	Description
Voltage Scale Up	Expands the graph along the voltage fluctuation ratio (vertical) axis.
Voltage Scale Down	Reduces the graph along the voltage fluctuation ratio (vertical) axis.
Zoom In	Expands the graph along the time (horizontal) axis. You can also expand the graph along the time axis by clicking Zoom In on the toolbar or by clicking View and then selecting Zoom In-main graph .
Zoom Out	Reduces the graph along the time (horizontal) axis. You can also expand the graph along the time axis by clicking Zoom Out on the toolbar or by clicking View and then selecting Zoom Out-main graph .
Search Focused dc	Adjusts the scroll position so that the dc of the segment specified by the Focus combo box is displayed at the center of the total measurement time waveform display pane. You can specify a phase (L1, L2, or L3).
Search Focused dmax	Adjusts the scroll position so that the dmax of the segment specified by the Focus combo box is displayed at the center of the total measurement time waveform display pane. You can specify a phase (L1, L2, or L3).
Search Focused d (t) > 3.3 %	Adjusts the scroll position so that the d(t) > 3.3 % of the segment specified by the Focus combo box is displayed at the center of the total measurement time waveform display pane. You can specify a phase (L1, L2, or L3).
Reset Horizontal Scroll	Resets the waveform that had been scrolled along the time (horizontal) axis to the left position. You can also reset the waveform by clicking View and then selecting Reset Horizontal Scroll .
Reset Voltage Offset	Resets the voltage offset value along the voltage ratio (vertical) axis to zero. You can also reset the voltage offset by clicking View and then selecting Reset Voltage Offset .
Voltage Auto Scale	The magnitude of the Volt Scale combo box is adjusted so that the waveform is shown.