

SCIPRO HAWK™1

ENGINEERING AND SCIENTIFIC DATA MINING USER GUIDE

DS DATA MINING CO., LLC

Norair Muradian

11/26/16

User GUIDE

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Patent Pending on SciPro Hawk™1 Software

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Engineering and Scientific Data Mining User Guide

1 INTRODUCTION

The engineering and scientific data mining, tabulation, analysis, and graphing software is a product of DS Data Mining Co. The purpose of this user guide is to instruct the software end user on the utilization of the various features of the data mining software. The software was developed to fulfill a requirement for engineers and scientists to export data from several different formats into one format (Excel) and then allow the user to manipulate the data. The software, through a user GUI interface, has the capability to import, tabulate, analyze and graph data. The software is licensed in four types a 15-day trial version, a standard edition, a university edition, an individual edition, and a student edition. A breakdown of the features associated with the different licenses is shown in the proceeding table.

		Sc	iPro Hawk1 Licensir	ng Types	
Software Features	15-day Trial		University Edition		Individual Edition
	Directory	Importing Feature	25		
Require to Close Excel GUI				х	Х
Load Directory/Files	Х	х	X	X	Х
Delimit Import Data	Х	х	X	X	Х
Clear Directory	Х	Х	Х		
Import Four File Types:					
Log File	Х	х	X	X	Х
CSV File	Х	Х	Х	X	Х
Text File	Х	х	X	X	Х
RTF File	Х	Х	X	X	Х
Reset Import File Types	Х	X	Х	X	Х
Save File Automatically in the directory	Х	х	X	x	Х
	Da	ata Analysis			
Analysis Types:					
Analysis	Х	х	х	X	Х
Tabulation	Х	Х	X	X	Х
Ananlysis and Tabulation	Х	х	X		
Analysis and Graphing Placement	Х	х	х	X	Х
Six Statistical Analysis Types	Х	х	X	X	Х
Place equations in cells	Х	х	X	X	Х
Three Types of Graphs	Х	Х	Х	X	Х
Scatter Plot	Х	х	X	X	Х
Linear Plot	Х	х	X	X	Х
Histogram Plot	Х	Х	Х	X	Х
	Tabula	tion/Data Search			
Four Separate Tabulation and Search Parameters	Х	Х	Х	X	Х
Time or Number Indexing	Х	Х	X	X	Х
Start and Index Value Configuration	Х	X	х	X	Х
Data can Be Transposed	Х	х	X	X	Х
Data Placement	Х	х	X	X	Х
Copy and Start/End Placement	Х	х	X	x	Х
	Config	uration Options			
Save Configuration Setting	Х	Х	Х		
Load Configuration Setting	Х	x	x		

2 SOFTWARE INSTALLATION

The SciPro Hawk[™]1 has two basic installation versions: a 15-day trial version and a full license version. The full license version can be activated through a web based process after the licenses has been purchased which gives the end user quick access to the software. The workbook is protected through Quick License software which wraps the Excel workbook in an application that converts the Excel workbook into an executable. The end user can only install one license per computer. For a site license covering multiple computer installations, contact the DS Data Mining Co. representative.

Manual Activation Process

A manual activation process is used for the standard version. The EXE or APP prompts the customer to supply a unique Activation Code during the initial launch of the software through the Activation GUI.

Activation	×
This application requires an Activation Code.	
Description 1//14/177/	
Request Number: 1661451776	
When you require your Articption Code, parts it is the field below and click	
When you receive your Activation Code, paste it in the field below and click the Activate Now button.	•
Activate Now Activate La	ier

The customer will e-mail DS Data Mining Co the assigned Request Number to receive the Activation Code. When you receive the Activation Code, enter it in the designated field to permanently activate the application on a specific computer.

Once you have completed activation and on each subsequent launch, the Open Data File dialog is presented. This dialog presents a user interface to create named copies of your spreadsheet that are listed in the dialog. You may notice that a folder has been created at c:\users\public\YourApp where these files are stored.

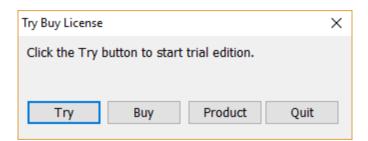
Open Data File	
	New
	Clone
	Rename
	Delete
	Export
	Import
	Open
	Quit

User Interface Presented by AddLicense Protected Spreadsheet

When the user double-clicks a listed document, or clicks the Open button, that document is opened in Microsoft Excel.

Online Activation

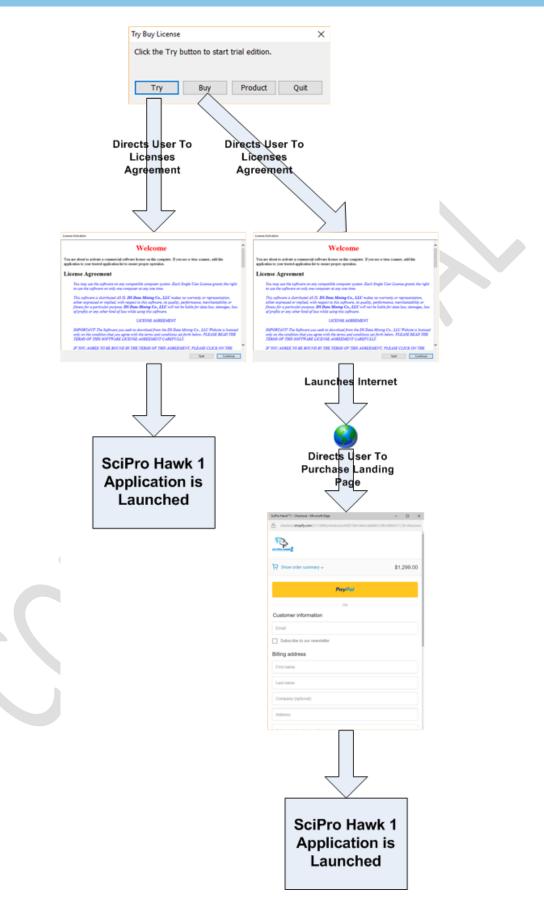
Safe Activation is an online service where you log into your account with a web browser and enter data into a few screens. The Select Activation Type Dialogue GUI appears for the end user to begin the activation process.



Dialog Presented if User Allowed to Select Activation Type

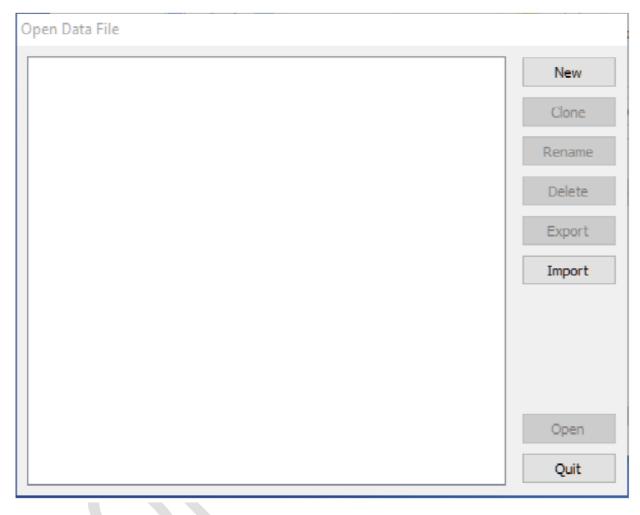
The Try Buy License GUI will appear and will prompt you with four selections. They Try button will begin the 15-Day trial version of the software, the Buy button will navigate you to our shopify purchase landing page for you to purchase the software. Once purchase the license will activate automatically. The Product button provides you with the User agreement, and the Quit button exits the activation process.

6



3 SOFTWARE QUICK START

On each launch the Open Data File dialog is presented. This dialog presents a user interface to create named copies of your spreadsheet that are listed in the dialog.



The software has a customized short Ribbon icon and a customized quick launch tab/icon for the user to start the user interface GUI to utilize the program features.

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le Hor	me Insert Draw	Page Layout Formulas	Data Review	View	Develop	per SciF	ro Hawk1 Er	igineering l	Data Mining T	iool 🖓	Tell me	vhat you want t						Я,
Let Cut	Calibri B I U	• 11 • A* A* ≡ : • □ • □ <u>\$</u> • <u>A</u> • ≡ :		Merge & (Center 👻	\$ - %	, 1.8 48		nal Formata ng * Table *	s Cell Styles •	Insert		📌 Cle	ar *	AZY Sort & Find Filter • Select	DK		
Clipboard	1 0	Font rs	Alignment		G	Numi	ber 5	1	Styles			Cells		Edit	ing			
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A	В	С	D	E	F	G	н	1.1	J	К	L	м	N	0	Р	Q	R	s
	File Name:	Test120170320																
			Files Size (Bytes):															
	Files In Directory		690000															
umber of	File:	9 Test1A.log	1527															
		testtest.log	6362															
		SN01_DS.txt	4744															
		Flux Calibration 9_30_10.c	s 330															
		Test1.txt	1527															
		ExampleGraphing.txt	1290															
		0 SN01_DS.txt	4744															
		Test.txt	1522															
		Test1Example.txt	1528															
		Test_IPTest.txt	190814															
		0 No RTF Files Found in This I	0															
					-												-	_
>	Sheet1 Sheet2	Sheet3 (+)							E 4									

The ribbon and quick launch icons allow the end user to quickly access the data mining software. By navigating to the quick access tool bar, the data mining menu will be highlighted.

5 - <u>2</u> -	્યુન ગેમ 👘				DSDataMinin	g_DMTASoftwar	e - ForTesting	- Excel					Norai	r Muradian	œ		D
le Home	New Tab Inse	t Draw Page Layou	ıt Formulas Da	ta Reviev	v View	Developer	SciPro Haw	1 Engineeri	ng Data Mini	ing Tool	🔉 Tell m	e what you	want to do				Я, s
	SciPro S Hawk1 H ear Dir/File Info Load Co	iPro SciPro awk1 Hawk1 nfiguration Company Info															
	$\therefore \qquad f_x$																
A	B	С	D	E	F	G H	1	J	K	L	м	N	0	P	Q	R	S
	File Name:																
	Directory Loaction	12	Files Size (Bytes):														
	Files In Directory:																
Number of File	e:																
	Sheet1 Sheet2	Sheet3 (+)						:			1						
-	aneett sneet2	Sileets (+)							- I								

There are currently four ribbon icons associated with the SciPro Hawk[™]1 software. From left to right are: the start application icon, the clear directory/file information icon, the load configuration icon, and the company information icon.





By pressing on either the quick access icon or the **Start Application** ribbon icon **Start Application** you can launch the user GUI.

🖶 5-0- 3-7	DSDataMining_DMTASoftware - ForTesting	g - Excel Norair Muradian 📧 — 🗆 🔿
File Home New Tab	SciPro Hawk1 Software Version 1.0 X	k1 Engineering Data Mining Tool 💡 Tell me what you want to do 유 와
SciPro SciPro	Load Directory/Files	
Hawk1 Hawk1 itart Application Clear Dir/File Info	Comma Delimited Comma Delimited Space Delimited Government Comma Delimited	
K7 * : ×		
A 1 2	Directory Location: Analysis Analysis/Tabulation Type Analysis/Graphing Analysis/Gra	JKLMNOPQRS
<u>-</u> 3 4 5	Perform Tabulation/Analysis Number of Parameters to Analyze:	
5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Statistical Analysis Graphing Type Place Statistics Equation In Cell: Scatter: Mean: Minimum: Stander Deviation: Mode: Maximum: Uncertainty:	
0 1 2 3	Search Configuration	
4 5		
6 7 8		
20		
21 22 23	Save Load Configuration Configuration	
24	Save/Load Directory Location:	
25		
Keady	seet2 Sheet3 ⊕	: (

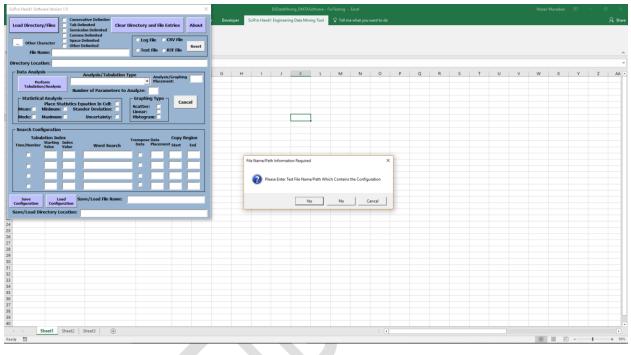


By pressing the Clear Dir/File Info ribbon icon Clear Dir/File Info you can clear the Excel data in the summary page.





By pressing the Load Configuration ribbon icon Load Configuration you can launch the user GUI and then prompt the user to load a saved configuration file. Follow the steps outlined in Section 9.





By pressing the **Company Info** ribbon icon **Company Info** you can launch the message box with the company and software information.

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ile Home	New Tab Insert	Draw Page Layout	Formulas	Data Rev	iew Viev	v Develop	r SciPro	Hawk1 Engine	ring Data Mini	ing Tool	🔓 Tell n	ne what you					Я :
	SciPro Hawk1 ear Dir/File Info Load Configu	SciPro Hawk1 ration Company Info															
A	в	с	D	E	F	G	н	I J	К	L	м	N	0	р	0	R	s
A	D	L.	U	E		0	п		N	L	IM	IN	0	۲	Q	ĸ	3
	File Name:																
	Directory Loaction:		Files Size (Byte	s): About T	- Calibra Ma	wk 1 Engineerir	- Data Minin	C.4.	×								
	Files In Directory:			About I	ne scipro Ha	wk i Engineerir	g Data Minin	Software	~								
Number of File																	
					Software V	erion 1.0											
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					DS Data M	lining softwar	e is Product o										
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					Los Angele Tel: (310) 5	es, CA 90056											
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About The SciPro Hawk 1 Engineering Data Mining Software X Software Verion 1.0 This Data Mining Software is Product of
DS Data Mining
S851 S. Garth Ave.
Los Angeles, CA 90056
Tel: (310) 568-9082
To Report any Buggs Contact david.stephens@dsscientific.com OK If enabled, OneDrive will force the software to open multiple folders during the tabulation portion of the code. If you are not utilizing OneDrive, please disable the software with the following steps.

In the Notifications area on the bottom of the Windows screen, right-click the OneDrive icon ⁽¹⁾. You might have to click the Show Hidden Icons arrow to find OneDrive.



- 1. Click Settings, and on the Settings tab, uncheck all the boxes under General.
- 2. On the AutoSave tab, set the Documents and Pictures lists to This PC only, and uncheck the other boxes.
- 3. On the Account tab, click Choose folders.
- 4. In the **Sync your OneDrive files to this PC** box, check and uncheck the box at **Sync all files and folders in my OneDrive**. (The first check selects all the boxes, then the uncheck clears them all.) Click **OK** to close the box and return to settings.

This step removes all OneDrive files from your computer, but leaves them on OneDrive.com.

- 5. Click **OK** to save your changes in the **Settings** box.
- Open the Settings box again: In the Notifications area, right-click the OneDrive icon, click Settings. On the Account tab, click Unlink OneDrive. Close the Welcome to OneDrive box that appears.
- 7. Open File Explorer, right-click **OneDrive**, and then click **Properties**.

On the **General** tab, next to **Attributes**, check the **Hidden** box. This hides OneDrive from File Explorer.

8. One more time, back in the Notifications area, right-click the **OneDrive** icon and click **Exit**. This removes the OneDrive icon from the Notifications area.

⁽¹⁾ <u>https://support.office.com/en-US/article/Turn-off-or-uninstall-OneDrive-f32a17ce-3336-40fe-9c38-6efb09f944b0</u>.

4 GUI NAVIGATION

This section will instruct the user on the main features in the user GUI interface referred to in Figure 1.

SciPro Hawk1 Software Version 1.0
Load Directory/Files Consecutive Delimited Clear Directory and File Entries About
Comma Delimited Space Delimited Other Character Other Delimited Tite Names
File Name:
Directory Location:
Data Analysis Analysis/Tabulation Type Analysis/Craphing
Perform
Tabulation/Analysis Number of Parameters to Analyze:
Statistical Analysis Graphing Type Place Statistics Equation In Cell: Scatter: Mean: Minimum: Stander Deviation: Mode: Maximum: Uncertainty:
Search Configuration Transpose Data Copy Region Time/Number Starting Index Transpose Data Copy Region Time/Number Value Value Word Search Data Placement Start End
Save Load Configuration Save/Load File Name:
Save/Load Directory Location:

Figure 1. User GUI Interface.

The GUI is separated into <u>three sections</u> a **data import**, **data analysis/graphing**, and a **data tabulation/search** section. This allows for greater flexibility in the data mining software referred to in Figure 2.

SciPro Hawk1 Software Version 1.0
Load Directory/Files Consecutive Delimiter Tab Delimited Semicolon Delimited Comma Delimited Comma Delimited Other Character Data ac Phrior Orting Section CSV File Other Delimited Comma Deli
– Data Analysis –
Analysis/Tabulation Type Analysis/Graphing
Tabulation/Analysis
Number of Parameters to Analyze: Data Analysis and Grap Aphng/p Section Place Statistics Equation In Cell: Mean: Minimum: Stander Deviation: Mode: Maximum: Uncertainty: Stander Deviation:
Search Configuration
Tabulation Index Transpose Data Copy Region Starting Index Time/Number Value Word Search Data Placement Start End
Data Tabulation and Search Section
Save Load Save/Load File Name:
Save/Load Directory Location:

Figure 2. User GUI Interface Sections.

5 DATA IMPORTING

Data can be imported from four different file types into Excel with multiple types of delimitations. This section of the manual instructs the user on how to import the data into Excel (Refer to Figure 3). To import the data into Excel, the data import parameters need to be configured.



You can **stop** the data import process by pressing the **Cancel** button in the Data Analysis section.

Step 1: Select the <u>file types</u> in the file directory, the user can choose from four file types Log, CSV, Text, and/or RTF. <u>Single</u> or <u>multiple</u> file types can be chosen. The **Reset** button will allow you to clear the file types that have been chosen.



Step 2: Select the <u>delimiter types</u> required, <u>multiple</u> delimiter types can be chosen. If **Other Delimited** is <u>checked</u> or <u>chosen</u> you can place the character, letter, or number in the text edit field to the right. A default value of _ is chosen for you.



Step 3: To <u>load</u> the directory you . can copy the directory path and directory name in the corresponding **edit boxes**.

File Name:	
Directory Location:	

Or you can <u>select</u> the **Load Directory/Files** button and navigate to the directory folder.



The Select Excel Workbook(s) Folder GUI will appear, allowing you to navigate to the folder directory.

\rightarrow \checkmark \uparrow \blacksquare \Rightarrow This PC \Rightarrow DSS_NM (F:) \Rightarrow			~ 0	Search DSS_NM (F:)	
ganize 🔻 New folder					≣ • (
Software Downle ^ Name ^	Date modified	Туре	Size		
Microsoft Excel	3/11/2014 11:25 AM	File folder			
clients	9/20/2013 2:35 PM	File folder			
Comfort Shirt	5/23/2016 12:17 AM	File folder			
This PC Connector	5/8/2012 3:35 AM	File folder			
Desktop CTIA Publication	9/23/2010 12:10 PM	File folder			
🚰 Documents	4/9/2014 4:19 PM	File folder			
Curtis Wright 2nd	4/25/2014 10:27 AM	File folder			
Downloads	7/13/2012 5:19 PM	File folder			
Music Documentation	3/4/2014 8:47 AM	File folder			
E Pictures DS Scientific	4/22/2015 11:37 PM	File folder			
🚰 Videos 🛛 📊 firmware	2/1/2011 6:47 PM	File folder			
Sont Section S	10/26/2010 3:03 PM	File folder			
RECOVERY (D:) Fowller Noise	3/16/2010 6:09 PM	File folder			
DSS_NM (F:)	12/22/2011 3:25 PM	File folder			
Gruman Northrup	6/15/2010 12:44 PM	File folder			
DSS NM (F:) H2test	5/12/2011 10:37 AM	File folder			
Folder name:					

In this example I have navigated to the Desktop directory, **notice** the file type and files in the folder will not appear on the GUI.

Select Excel Workbook(s) Folder			×
← → ✓ ↑ 🔜 > This PC > Desktop	~ Ō	Search Deskto	م p
Organize 🔻 New folder			::: • ?
✓ Quick access Ame Date modified Type ✓ Downloads ✓ Working on it ✓ Documents ✓ ✓ ✓ Pictures ✓ ✓ ✓ Order Trice ✓ ✓ ✓ OneDrive ✓ ✓ ✓ Desktop ✓ ✓	Size		
Folder name: Desktop			
	Tools	▼ OK	Cancel

Step 4: Then <u>press</u> **OK** button. A message GUI will appear instructing the user on how many files it has found, in this <u>example 3 Log files</u> have been found. Press the **Yes** or **No** button to <u>continue</u>. A **Yes** will allow the software to continue processing the files while a **No** will stop the program.

Log Index	×
3 *.log Files Found Do You Want to (Continue
Yes	No

Step5: The software will open a new Excel workbook and populate the results of the directory Log files into the Excel workbooks, one for every Excel workbook.

	- ÷	- & =							Te	st120160911	- Excel					No	rair Muradian	æ			
F	ile Hom	e Insert	Draw	Page Layout	Formula	s Data	Review V	iew De	veloper	Foxit PDF	TEAM	Q Tell me wh	at you want							Ą s	Share
Pa	Clipboard	•	_	• 11 • ⊞ • 🏠 Font	A [*] A [*] ≡ • <u>A</u> • ≡	= = •	• 🔐 Wrap			% * 58	Condit Format	ional Formata ting + Table + Styles	is Cell Styles +	Insert Delete		∑ AutoSum ↓ Fill → ◆ Clear → Edi	Sort & Find Filter * Select				^
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	Α	В	С	D	E	F	G	н	1.1	J	к	L	м	N	0	Р	Q	R	S		
1	Automated	Cleanup Er	ngine																		
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5	Deleting File	<pre>c:\users\</pre>	norair\docu	ments\ds scie	entific\softw	/are downlda	ds\sequoia vie	ewer\soft@	onicdownl	oader_for_	sequoiaview	.exe									
6							Ī														
7	Automated	Cleanup Er	ngine																		
8	Starting Cle	anup at 06,	/08/2016 - :	18:42:05 GM	Т																
9																					
10	Starting Rou	utine> Rem	oving c:\cpp	sim\cppsimsl	hared\comm	noncode\usrp	p\src.exe#(P	X5: 74AC1	7D511B1	A2566115	0049C576B9	009C77B214	4 - MD5: 1	16E1FB3710	17D6C927	DB1C9ABDE0	:99F)				
11	Deleting File	c:\cppsin	n\cppsimsha	ared\commor	ncode\usrp\	src.exe															
12																					
13	Automated	Cleanup Er	ngine																		
14	Starting Cle	anup at 06,	/08/2016 - :	18:43:42 GM	т																
15																					
16	Starting Rou	utine> Rem	oving c:\cpp	sim\cppsims	hared\sue2\	bin\win32\cl	heck_ngspice_	logfile.exe	#(PX5: 5	51329D73E	5757DBE62	D400802800	E4003100	6C37 - MD5	60B4F22	E2857DFE5DE	4D11B68C36	D7E4)			
17	Deleting File	c:\cppsin	n\cppsimsha	ared\sue2\bir	n\win32\che	eck_ngspice_l	logfile.exe														
18																					
19	Automated	Cleanup Er	ngine																		
20	Starting Cle	anup at 06,	/08/2016 - :	18:43:46 GM	т																
21																					
22	Starting Rou	utine> Rem	oving c:\cpp	sim\cppsims	hared\sue2\	src\netlister\	check_ngspic	e_logfile.ex	#(PX5	51329D73	E5757DBE6	2D40080280	OE400310	006C37 - MD	5: 60B4F2	2E2857DFE50	0E4D11B68C3	86D7E4)			
23	Deleting File	c:\cppsin	n\cppsimsha	ared\sue2\sro	c\netlister\ch	heck_ngspice	_logfile.exe														
24																					
	<	RawData	_testtest.log	RawData	a_Test1A.log	RawData	_T8P8CSR.log	Sheet1)		: 4									Þ
Rea	dy 🔠																	-	I	+ 10	0%

Step 6: Note that the <u>software</u> will choose a default file name and load the directory name and file path in the user GUI. The default name is Test1 followed by the date 9-11-2016 in reverse order 20160911.

Load Directory/File	s V	Consecutive Delimiter Tab Delimited Semicolon Delimited	Clear Di	rectory and File Entries	About
_ Other Characte	⊽ ۲ □	Comma Delimited Space Delimited Other Delimited		• Log File CSV File	Reset
File Name:	Test12	0160911		🔿 Text File 🔿 RTF File	
Directory Location:	C:\Use	rs\Norair\Desktop			

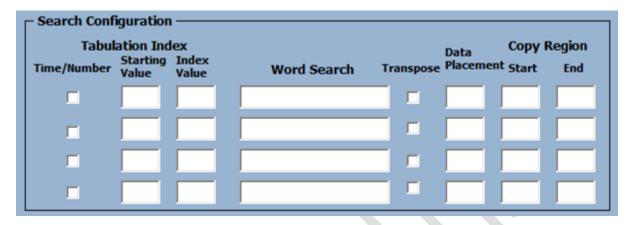
The software will also <u>update</u> the <u>summary sheet</u> with directory information.

. 5-	∂ - 2 + ∓				DSSci	entific_DMTA	Software - Exc	el					Norair M	uradian	<u>т</u> –		×
	Home Insert Draw	Page Layout Formulas	Data Review	View	Developer	Foxit PDF	TEAM	🛛 Tell	me what you								Share
Visual Macro Basic	Record Macro Use Relative References Macro Security Code	Add- ins Add-ins Add-ins Add-ins		operties ew Code in Dialog	Source Difference	p Properties ansion Packs iresh Data XML											~
A5	▼ : × √ f _x																~
A	В	с	D	E	F	G	н	1	J	К	L	м	N	0	Р	Q	l
1 2																	-
3																	
4																	
5																	
,	File Name:	Test120160911 1: C:\Users\Norair\Desktop	Files Size (Bytes):														
:	Files In Directory:		690000														
9 Number	of File:	3 Test1A.log	1527														
0		testtest.log	6362														
1		SN01_DS.txt	4744														_
2		CSV File Was Not Selecete Text File Was Not Selecete															
4		RTF File Was Not Selecete															
5		0 RTF File Was Not Selecete															
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	Sheet1 Sheet2	Sheet3 (+)							÷ •								Þ
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The <u>software</u> will save a copy of the Excel file in the same directory where the data resides.

6 DATA TABULATION AND SEARCHING

The section of the <u>GUI</u> which <u>controls</u> the parameter search and tabulation of the data is referred to as the <u>Search Configuration</u> section (Refer to the figure below.)



The **search configuration** allows the user to <u>find four search parameters</u> in the imported data (refer to Section 4) and <u>tabulate the data</u> for further processing. This section of the manual will provide the user with guidance on how to configure the search in order to properly tabulate the results. Each parameter as shown in the figure below needs to be set for the engineering data mining software to properly tabulate the information for further processing.



The Search Configuration section is separated into <u>four sub-sections</u> 1) Tabulation Index, 2) Word Search, 3) Data Placement, and 4) Copy Region. The <u>Tabulation Index</u> is composed of a Time/Number check box, a Starting Value text box, and an Index Value text box. The Time/Number check box will allow the data to be indexed as a function of a time or a number. By selecting the check box, you index all the tabulated data with a time stamp which can be modified for any time frame. For example, if you imported the data of a voltage value as a function of time and you would like to search the data set and tabulate the results with an incrementing index of time. The <u>Starting Value</u> text box allows you to begin the indexing at any number. For example, if you want to begin at a time stamp of 100 sec., type in 100 in the Starting Value text box. The Index Value indicates how often the data will repeat 50 times, 100 times, etc.

The <u>Word Search</u> section will provide the word to find in the imported Excel workbook that the associated data is correlated to. For example, if you typed in the word Time, it would locate the data that is correlated to time based measurements that was taken.

Next is the Transpose check box. By selecting the check box, you allow the data to be tabulated horizontally., If you uncheck the Transpose check box, the data will be tabulated vertically in the Excel worksheet. This is followed by the Data Placement text box which will allow the user to tabulate the data in any part of the worksheet (Note: that the software will not allow the user to override any data present or data that already exists in the worksheet). The software will shift to the left until any empty range of

cells are found that match the size of the tabulation range. The <u>copy region</u> is only utilized if the transpose check box is checked. The software will place the data range in the start of the data placement cell. The following two examples will illustrate how to utilize the search configurations.

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Tabulation Inde Starting Time/Number Value	Index Value Word Search	Data Placement Start End
Tabulation Inde Starting Time/Number Value	Index Value Word Search	Data Placement Start End

In the first example the data mining software tool will be instructed to find and tabulate the data of IP ping results. <u>To tabulate the data</u>, let's review the data itself to have a better understanding of what the software will be instructed to accomplish.

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Reviewing the data in this example, we can determine that we are interested in the <u>ping time</u>. We can identify a word to use as the search criteria in this data set. We can utilize the search criteria as the reference point in the data set. In this example, we identify the word "time" with the data starting in cell F3 (the latency of the ping testing). You can also choose words in the Excel workbook such as "reply" or "from". The key is the selected search criteria repeats itself throughout the Excel workbook. For every word, there is a corresponding data of latency.

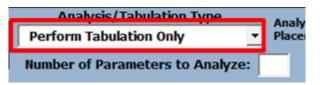
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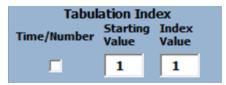
To complete the data mining GUI for the tabulation of the data set, refer to the example below.

Let's work through an example step by step to see how we configured the search in the GUI.

Step 1: We chose the **Perform Tabulation Only** from the Analysis /Tabulation Type <u>pull down menu</u>.



Step 2: In the <u>Search Configuration</u> we have chosen the <u>starting Value</u> as 1 and the <u>index value</u> as 1, this means that the data would increment by 1.



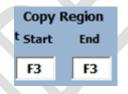
Step 3: The word search is "time". This is the word that the software will find.

Word Sear	ch
time	

Step 4: The Data Placement is in Cell N3, the software will tabulate the data in cell N3.



Step 5: The <u>region</u> where the actual data is going to be copied from starts at F3 which is the latency of the ping results.



Step 6: You <u>do not need</u> to populate the file name or directory location unless you have already imported the data. The software will prompt you for the directory and file information.

If you press the **Perform Tabulation/Analysis** button, the software will prompt you to enter the file that you want to tabulate.

File Name/Path Information Required	×
Please Enter Excel File Name/Path Which Contains Data to Analyze	
Yes No Cancel	

Press the **Yes** button to continue.

Step 7: When the Select Excel File GUI will appear, navigate to the folder and choose the file you want to tabulate. Press the **Open** button.

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Step8: The <u>Data Mining software will populate the file and folder information</u> on the user GUI.

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Step9: The software tool will then begin tabulating the raw data on the left of the Excel workbook to its new location N3 on the right of the workbook.

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You can tabulate up to four separate search parameters in the same Excel workbook.

Step 10: The tabulation can be <u>stopped</u> by pressing the **Cancel** button

Cancel

7 DATA ANALYSIS AND GRAPHING

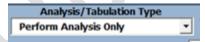
The section of the GUI which controls the analysis and graphing of data is referred to as the Data Analysis section (see below).

– Data Analysis	Analysis/Tabulation	Type Analysis/	Graphing
Perform		✓ Placemen	
Tabulation/Analysis	Number of Parameters to	Analyze:	
	stics Equation In Cell: 🗌 Stander Deviation: 🗖 Uncertainty: 🗌	Graphing Type – Scatter: Linear: Histogram:	Cancel

The <u>Data Analysis section</u> is divided into <u>three sub-sections</u>. The first section allows you to choose all the statistical analysis that needs to be performed. The second graphing section allows you to select the graphs you require. And, the third general controls section determines where the data will be placed.

This section of the User Guide reviews the procedure for configuring the data mining GUI to perform the analysis required by the user.

In the example below, you require data analysis to be performed on the ping data from the tabulation section. **Step 1:** Start by choosing the Perform Analysis Only on the <u>pull-down tab</u> on the Analysis/Tabulation type.



Step 2: Then <u>choose any type of analysis</u> to be performed as well as the type of graphing required. In this example, Check the Mean, Minimum, and Maximum.

- Statistic	al Analysis —		
	Place Statis	tics Equation In Cell:	
Mean: 🗹	Minimum: 🗹	Stander Deviation:	
Mode:	Maximum:	Uncertainty:	

Step 3: In the **Analysis/Graphing Placement**, choose the cell where you require the software to place the results.



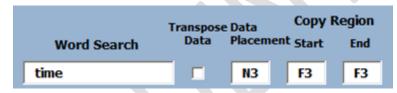
Step 4: Finally, choose a **Linear Graphing type** to display your latency results and place the results in cell N3. You can choose <u>all three graphing types</u> if you prefer. However, in this example only one graphing type has been chosen.

Graphing Type	
Scatter:	
Histogram:	

Step 5: The configuration of your Data Analysis section is shown in below.

Data Analysis	Analysis/Tabulation	Type Analysis/Graphing N3
Perform	Perform Analysis Only	Analysis/Graphing N3 Placement:
Tabulation/Analysis	Number of Parameters to	Analyze:
- Statistical Analysis Place Statis Mean: ▼ Minimum: ▼ Mode: □ Maximum: □	tics Equation In Cell: 🔲 Stander Deviation: 🗖 Uncertainty: 🗖	Graphing Type Cancel

Step 6: In the search configuration choose the word search and copy region.



In the word Search type "time" and in the Data Placement type cell "F3" (location where the data starts). Once all the fields have been entered, press the Perform Tabulation/Analysis button to begin the analysis process. As indicated in the tabulation section, if you do not enter the file name and directory location the data mining software will instruct the user to choose the file for the analysis to be performed on.

SciPro Hawk1 Software Version 1.0
Load Directory/Files Consecutive Delimiter Tab Delimited Clear Directory and File Entries About Semicolon Delimited
_ Other Character Space Delimited CLog File CSV File Other Delimited Reset
File Name:
Directory Location:
Data Analysis Analysis/Tabulation Type Analysis/Craphing
Perform Perform Analysis Only Placement: N3
Tabulation/Analysis Number of Parameters to Analyze:
Statistical Analysis Graphing Type Place Statistics Equation In Cell: Scatter: Mean: Minimum: Stander Deviation: Mode: Maximum: Uncertainty:
Search Configuration Copy Region Tabulation Index Transpose Data Copy Region Starting Index Time/Number Value Value Value
time F3
Save Load Configuration Save/Load File Name:
Save/Load Directory Location:

The data mining software will then <u>retrieve</u> and <u>analyze</u> the data (see below for results). Note that the analysis and graphing are performed independently from the tabulation portion in this example. This is done to show how the analysis and graphing portion of the software functions. You can perform the tabulation, analysis, and graphing simultaneously.

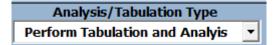
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8 TABULATION, ANALYSIS, AND GRAPHING

As indicated in Section 7, we can perform the <u>tabulation</u>, <u>analysis</u>, and <u>graphing</u> simultaneously. Let's go through the step by step process.

Step 1: Launch the SciPro Hawk[™]1 user GUI, if you haven't already done so.

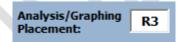
Step 2: Start by <u>choosing</u> the **Perform Tabulation and Analysis Only** on the <u>pull-down tab</u> on the <u>Analysis/Tabulation type</u>.



Step 3: Select any type of <u>analysis</u> to be performed and any type of graphing required. In this example, the Mean, Minimum, and Maximum were selected.

🖵 Statistical Analysis	┌─ Graphing Type ─┐
Place Statistics Equation In Cell: Mean: ✓ Minimum: ✓ Stander Deviation: □ Mode: ✓ Maximum: ✓ Uncertainty: □	

Step 4: In the **Analysis/Graphing Placement**, choose the cell where you require the software to place the results.



Step 5: Choose the Linear Graphing type to display your latency results and place the results in cell N3. You can <u>choose all three graphing types</u> if you prefer; for this example, only one has been chosen.

└ Graphing Type ┘	
Scatter:	
Linear: 🗹	
Histogram:	

Step 6: In the **Search Configuration** we have chosen the starting value as 1 and the index value as 1, which means that the data would increment by 1.

Tabulation Index							
Time/Number	Starting Value	Index Value					
	1	1					

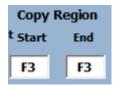
Step 7: The word search is "time". This is the word that the software will find.

Word Search
time

Step 8: The Data Placement is in Cell P3, the software will tabulate the data in cell P3.



Step 9: The Copy Region selected is F3, which is the latency of the ping results.



Step 10: You do not need to populate the file name or directory location unless you have already imported the data. The software will prompt you for the directory and file information.

If you press the **Perform Tabulation/Analysis** button, the software will prompt you to enter the file that you want to tabulate.

File Name/Path Information	on Required		×
Please Enter Exc	cel File Name/Path	Which Contains Da	ata to Analyze
	Yes	No	Cancel

Press the Yes button to continue.

Step 11: When the **Select Excel File GUI** appears, navigate to the folder and choose the file that you want to tabulate. Then press the **Open** button.

XII Select Excel File							×
	DneDrive > Documents			~ Ū	Search Documents		Q
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Step 12: The Data Mining software will populate the file and folder information on the user GUI.

SciPro Hawk1 Software Version 1.0)	×							
Load Directory/Files	Consecutive Delimiter Tab Delimited Semicolon Delimited	Clear Directory and File Entries About							
_ Other Character	Comma Delimited Space Delimited Other Delimited	○ Log File ○ CSV File ○ Text File ○ RTF File Reset							
File Name: Test120160925_2nd.xlsx Directory Location: C:\Users\Worair\Desktop\									
Data Analysis —	Analysis/Tabu	ulation Type Analysis/Graphing							
Perform Tabulation/Analysis	Perform Tabulation								
	Number of Parameters to Analyze:								
Place Stati	Linear:								
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	lue Word Sea	arch Data Placement Start End							
	_								
Save Load Configuration Configurat		lame:							
Save/Load Directory Loca	ation:								

Step 13: The software tool will begin tabulating the raw data on the left of the Excel workbook to the new location N3 on the right of the workbook.

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Reply	from	216.58.217 bytes=32	time	3	77 s	TTL=46							33	77													
Reply	from	216.58.217 bytes=32	time	7	78 s	TTL=46							34	78													
Reply	from	216.58.213 bytes=32			14 s	TTL=46							35	84													
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9 SAVING AND LOADING CONFIGURATION FILES

The section of the GUI which controls the saving and loading of the configuration files is designed for the end user to save the configuration for later use (see below).

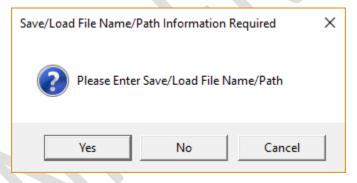
Save Configuration	Load Configuration	Save/Load File Name:	
Save/Load Dire	ectory Location	:	

This portion of the data mining software saves the work as a text file and then recalls the text file for future use. To begin, you can either type in the file name and directory location or press the Save Configuration button and the software will instruct the user where to save the configuration file. To load the configuration file, the process is similar. Either type the information in the user fields or press the Load Configuration button to navigate to the location of the configuration file that you require loading.

Saving A Configuration

Step 1: Press the Save Configuration Button

Step 2: User GUI Save/Load File Name/Path Information Required will be prompted.



Step 3: Press Yes to Save the current configuration or press No to Cancel.

Step 4: The **Save Configuration File GUI** will prompt the user for a location to save the configuration file and the file name.

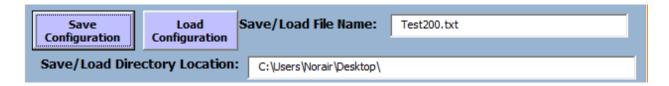
· (

Step 5: <u>Choose</u> the Save As Type as Text (Tab delimited).

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OfficeProtect	Name	Date modified	Туре	Size		
QuickLicense	Encrypted XLSM with AppProtect	3/6/2017 11:18 PM	Shortcut	2 KB		
Microsoft Excel	Encrypted XLSM with QuickLicense	3/6/2017 11:18 PM	Shortcut	2 KB		
a microsoft Excer	ExampleGraphing	8/21/2016 12:45 PM	Text Document	2 KB		
ConeDrive	🗾 Excel Troubleshooting Guide	3/6/2017 11:18 PM	Shortcut	2 KB		
This PC	🌮 Icarus Verilog	8/16/2015 8:11 AM	Shortcut	2 KB		
Desktop	🔂 OfficeProtect Overview	3/6/2017 11:18 PM	Shortcut	2 KB		
	SN01_DS	9/14/2010 3:02 PM	Text Document	5 KB		
	Test	9/25/2016 9:29 PM	Text Document	2 KB		
Downloads	Test_IPTest	9/25/2016 10:28 PM	Text Document	187 KB		
Music	Test1Example	7/10/2016 5:57 PM	Text Document	2 KB		
Pictures	🗾 VBA Bound License	3/6/2017 11:18 PM	Shortcut	2 KB		
📑 Videos	🛜 WD My Cloud Dashboard	10/4/2015 12:15 PM	Internet Shortcut	1 KB		
🏪 Windows (C:) 🗸	WD My Cloud Learning Center	10/4/2015 12:15 PM	Internet Shortcut	1 KB		
File <u>n</u> ame:						
Save as type: Text (Tab delimited)					

Step 6: Provide a <u>file location and name</u>, then press the **Save** button. This will save a text file with the current configuration of your data mining parameters.

Step 7: The file location and file name will appear in the user GUI fields.



Loading A Configuration

Step 1: Press the Save Configuration Button

Step 2: User GUI File Name/Path Information Required will be prompted.

File Name/Path Information Required	×	
Please Enter Text File Name/Path Which Contains the Configuration		
Yes No Cancel		

Step 3: Press Yes to load the current configuration or press No to Cancel.

Step 4: The **Select Configuration Text File GUI** will prompt for the user to supply a location to <u>load</u> the <u>configuration file and file name</u>.

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DataMining ^	Name ^	Date modified	Туре	Size	
DS Scientific	🗾 Encrypted XLSM with AppProtect	3/6/2017 11:18 PM	Shortcut	2 KB	
- OfficeProtect	Encrypted XLSM with QuickLicense	3/6/2017 11:18 PM	Shortcut	2 KB	
QuickLicense	ExampleGraphing	8/21/2016 12:45 PM	Text Document	2 KB	
	n Excel Troubleshooting Guide	3/6/2017 11:18 PM	Shortcut	2 KB	
XII Microsoft Excel	🎒 Icarus Verilog	8/16/2015 8:11 AM	Shortcut	2 KB	
🛆 OneDrive	🗾 OfficeProtect Overview	3/6/2017 11:18 PM	Shortcut	2 KB	
TU: DO	SN01_DS	9/14/2010 3:02 PM	Text Document	5 KB	
This PC	Test	9/25/2016 9:29 PM	Text Document	2 KB	
E Desktop	Test_IPTest	9/25/2016 10:28 PM	Text Document	187 KB	
Documents	Test1Example	7/10/2016 5:57 PM	Text Document	2 KB	
🕹 Downloads	Test200	4/9/2017 1:18 PM	Text Document	2 KB	
Music	🔂 VBA Bound License	3/6/2017 11:18 PM	Shortcut	2 KB	
Pictures	🛜 WD My Cloud Dashboard	10/4/2015 12:15 PM	Internet Shortcut	1 KB	
🚆 Videos	🔊 WD My Cloud Learning Center	10/4/2015 12:15 PM	Internet Shortcut	1 KB	
骗 Windows (C:) 🗸					
	name: Test200			V Read (Configuration File Types

Step 5: <u>Provide the file name</u>, then press **OK** Button. This will load the text file with the current configuration of your data mining parameters.

Step 6: The file location and file name will appear in the user GUI fields.

Save Configuration	Load Configuration	Save/Load File Name:	Test200.txt
Save/Load Dire	ectory Location:	C:\Users\Worair\Desktop\	
		C:\Users\Worair\Desktop\	
6			

10 TECHNICAL SUPPORT OPTIONS

Your registered SciPro Hawk[™]1 product includes a one-year software maintenance that begins on your purchase date. You can contact technical support staff by phone or by email to receive one-on-one support when you are experiencing issues or have questions. A video instruction guide is provided at the DS Data Mining web site for technical support to show the user how to utilize the software.

Online: www.dsdatamining.com

Email: david.stephens@dsscientific.com

Call: (310) 568-9082

11 ACRONYMS

- GUI General User Interface
- ICON A symbol
- TM Trade Mark
- PC Personal Computer
- LOG Type of text file
- CSV Chorionic Villus Sampling
- RTF Rich Text Format

12 ACKNOWLEDGEMENTS

This data mining software, SciPro Hawk[™]1 and the corresponding User Guide are the result of dedicated effort.

We would like to thank the numerous people that provided consultative help and constructive suggestions during the development of our software.