67 Series Spectrophotometers Operating Manual



670 005/REV C/03-10

IMPORTANT

Please ensure the SD Card is fitted into the socket as detailed in the image below.



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Please ensure the SD Card is fitted into the socket as detailed in the image below.



67 Series Spectrophotometer

PC Software

Installation



Insert the **67-Series Software Suite** installation CD and select the **67-Series Software Suite** icon to open the following screen. Selecting **Next** commences the installation. The installation can be aborted by selecting **Cancel**.

10 67-Series Software Suite		18 67-Series Software Suite	
Welcome to the 67-Series Software Suite Setup Wizard	🕫 67.Seria: Software Suite 🛛 🔯	Installation Interrupted	JENWAY
The initialer will guide you through the steps required to initial E7-Series Software Suite on your computer. WARNING: This computer program is protected by copyright law and international likelities. Unadioxided diplications or distribution of this program, or any portion of it, may much it nervers civil or critinal penalties, and will be protected to the maximum entert possible under the law.	The installation is not yet condition like you use you work to air? Yes file	The initializion was retempted before 67 Series Software restort the initialier to by again.	Suite could be installed. You need to
Cancel Y Bush Next >		Level	R Back Close

The default installation destination is C:\Program Files\Jenway\67-Series Software Suite\. To select the default destination select **Next**, to alter the destination select **Browse**. To review the disk space requirements select **Disk Cost**. The **67-Series Software Suite** can be set up to be used by all users or a single user by checking the appropriate box. To progress the installation select **Next**, to return to the previous screen select **Back**, to exit the installation select **Exit**.

🖥 67-Series Software Suite 📃 🗖 🔀							
Select Installation Folder	17 Brown	r far Folder					
The installer will install 67-Series Software Suite to the following tolder.	Browner:	🔐 67 Series Software Suite 🛛 👻 🙆 🔛	The list being i	Software Suite scludes the drives yo and required data op	a can initial \$7.5 m	ies Software Suite to,	along with each
To rutal in the lolder, click "Next". To rutal to a different lolder, entre it before or click "Snowne". Eolder: [CYPogram Filer/JenwayA67.Series Software Suite/ Disk.Cent.		Incordina (C) Property Proventy Proventy	Volume GDA GDC 로인 로인	Disk Sov 048 3258 13568 13568	Available DKB 3208 7508 7508	Requed 0X0 1340 0X0 0X0 0X0	Difference (KB) 1258 7568 7568
Install 67-Series Software Suite for yourself, or for anyone who uses this computer: Image: Software Suite for yourself, or for anyone who uses this computer: Image: Software Suite for yourself, or for anyone who uses this computer: Image: Software Suite for yourself, or for anyone who uses this computer: Image: Software Suite for yourself, or for anyone who uses this computer: Image: Software Suite for yourself, or for anyone who uses this computer: Image: Software Suite for yourself, or for anyone who uses this computer: Image: Software Suite for yourself, or for anyone who uses this computer:	Enider	C Vingen Fähl Verwey (C Selec Selfware Selfw OK Carcel	D				OK
Cancel (Back. Next)							

Select *Next to* commence the installation. To review or change any of the installation parameters select *Back*. To exit the installation at this stage select *Cancel*, the software will not be installed if you choose to exit.

🖗 67-Series Software Suite		🔞 67-Series Software Suite	
Confirm Installation	JENWAY	Installing 67-Series Software Suite	JENWAY
The installer is ready to install 67 Series Software Suite on your computer. Cick. "New!" to start the installation.		67.5eries Software Suite is being installed. Please wait.	_
Cancel Cancel	Nest >	Cancel	ante les s

When the installation is complete select Close.



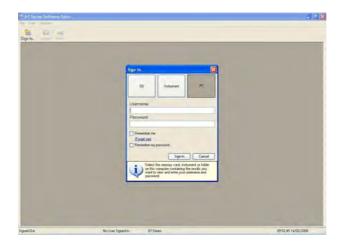


The 67-Series Software Suite icon is displayed on desktop

Getting Started



Ensure the PC and spectrophotometer are connected via the USB cable and select the **67-Series Software Suite** desktop icon to open the **67-Series Software Suite** main screen.



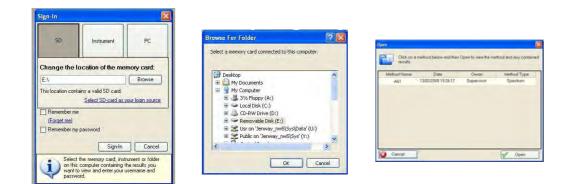
There are three options for accessing saved methods and data: SD, Instrument and PC.



SD allows the user to access methods and data saved on an SD or SD/USB card inserted in the PC.

Selecting *SD* allows the user to browse through the PC directory for the inserted SD or SD/USB card. Select the required folder, *OK* and <u>Select SD card as your login source</u>. Entering the *Username, Password* and selecting *Sign-In* accesses that specific users methods and data (the Username and Password that are required are the same as when logging into the instrument), the user or password can be saved by ticking the appropriate boxes. Highlighting the required method and selecting *Open* accesses the saved method.

Data processing for SD is detailed in the Data Processing section.



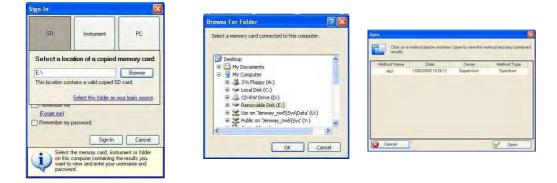
Note: If the selected location does not contain a valid SD card the error message *This location does not contain a valid SD card* will be displayed.



PC allows the user to access methods and data saved to a PC.

Selecting *PC* allows the user to browse through the PC directory for the desired folder. Select the required folder, *OK* and <u>Select this folder as your login source</u>. Entering the *Username, Password* and selecting *Sign-In* accesses that specific users methods and data (the Username and Password that are required are the same as when logging into the instrument), the user or password can be saved by ticking the appropriate boxes. Highlighting the required method and selecting *Open* accesses the saved method.

Data processing for PC is detailed in the Data Processing section.



Note: If the selected location does not contain a valid SD card the error message *This location does not contain a valid copied SD card* will be displayed.



Instrument allows the user to access data saved to either the internal memory of the spectrophotometer or a memory card inserted in the spectrophotometer.

Selecting *Instrument* allows the user to browse through data saved to either the internal memory of the spectrophotometer or a memory card inserted in the spectrophotometer. Select the *Check for connected instrument* (the default status is *Disconnected*), whilst searching the *Check for connected instrument* button updates to read *Cancel* and the status updates to *Searching...* when connected the status reads *Connected*. Choose the desired location of the files from the dropdown bar (the option for *Inserted Memory Card* is only available if an SD or SD/USB card is inserted in the spectrophotometer) and *Select this Iocation as your login source*. Entering the *Username* and *Password* and *Sign-In* accesses that specific users methods and data (the Username and Password that are

required are the same as when logging into the instrument), the user or password can be saved by ticking the appropriate boxes. To access the required method highlight that line and select **Open**. Data processing for **Instrument** is detailed in the **Data Processing** section.





	on a method below	and then Open	to view the metho	d and any contained
rasult				
Method Name	Date	Owner	Method Type	Internal/External
Ab	04/01/2008 05:5	Supervisor	Photometrics	Internial
Default Metho	04/01/2008 05:5	Supervisor	Photometrics.	Internal
Def sult Metho	31/12/2007 10:0	Généric	Photometrics	Internal
Def oult Metho	20/12/2007 11:1	Supervisor	Photometrics	Internal
Det sult Metho	20/12/2007 11:1	Supervisor	Photometrics	Internal
ADGJ	19/12/2007 10:1	Generic	Photometrics	Interneti
Default Metho	21/01/2008 15:1	Supervisor.	Spectrum	Internal
Default Metho	21/01/2008 15:1	Supervisor	Spectrum	Internal
	21/01/2008 14:4	Supérvior	Spectrum	Internal

Note: Whenever the PC and spectrophotometer are communicating the spectrophotometer's screen updates to show:



Data Processing

Data processing is the same for the **SD**, **PC** and **Instrument** options.

All available methods are displayed in the *Open* box. Highlighting the required method and selecting *Open* opens the method.

Click on a method below results.	rend then Open	to view the metho	d and any contained	Click on a method below and then Open to view the method and any consults.
Method Name Date	Owner	Method Type	Internal/External	Method Name Date Owner Method Type Internal/Ex
Ab 04/01/2008 05.5	Supervisor	Photometrics	Internal	Ab 04/01/2008 05.5 Supervisor Photometrics Internet
Default Metho: 04/01/2008 05.5	Supervisor	Photometrics	Internel	Def ault Method 04/01/2008 05:5 Supervisor Photometrics Internet
Def nullt Met ho: 31/12/2007 10:0	Generic	Photometrics	Internal	Defeult Coading method, this may take some time, please
Default Methor 20/12/2007 11:1	Supervisor	Photometrics	Internal	Det ault i 📈 wait.
Def ault Methor 20/12/2007 11:1	Supervisor	Photometrics	Internal	Default metror concretor rra oupernoor mounteres metro
ADGJ 19/12/2007 10:1	Generic	Photometrics	Internal	ADGJ 19/12/2007 10:1 Generic Photometrics Internet
Default Metho: 21/01/2008 15.1	Supervisor	Spectrum	Internal	Default Methor 21/01/2008 15:1 Supervisor Spectrum Internet
Det nult Methor 21/01/2008 15:1	Supervisor	Spectrum	internal	Det ault Met hoi 21/01/2000 15:1 Supervisor Spectrum Internet
1st Order Diff 21/01/2008 14.4	Supervisor	Spectrum	Internal	1st Order Diff 21/01/2008 14.4 Supervisor Spectrum Internet

r la Open

Once a method is opened further methods can be opened by selecting the open icon.

Note: Clicking on the column titles alters the order in which the methods are displayed. *Method Name* orders the methods alphabetically, *Date* orders the results in date order, *Owner* orders the methods by owner type, *Method Type* orders the methods alphabetically and *Internal/Ext* orders the methods by the order they appear on the spectrophotometer's screen.

Photometrics

The photometrics screen displays two tabs Method and Results

The *Method* tab displays the *Method Details*, *Accessories Used* (if any) and *Information* of the photometric measurement (this information cannot be edited).

Method Res	ruits			
	Method Details			
	Mode	Photomet	rics	
	Wavelength (nm)	400.0		
	Method locked	Pultro.		
	Accessories Used			
	Mallicott	Polico	Course	
	Contraction of the state			
	Information			
	By Supervisor	Date	04/01/2008 05:56:16	

The *Results* tab displays a table of the all the results in the chosen method.

Aethod Results					
				0	Filter 😻
ก					
Сору	day and				
Result ID	Batch Name	Cell	ABS	%T	Dote
1	Default Botch	0	803.0	247	20/12/2007 11
41	Default Batch	0	0.035	92.3	20/12/2007 11
2					
3	Default Batch	0	0.045	90.1	20/12/2007 11
3	Default Batch Default Batch	0	0.045	90.1 24.8	20/12/2007 11.
3					

Selecting *Filter* displays a drop down allowing the results to be filtered by *Sample Name, Date/Time, Absorbance* or *Transmittance* values. After inputting the required filter parameters select *Apply* and the results table will be updated to include the filtered results.

hod Result						
	iample Name	Before		-	Filler 🕱	
E L	Date/Time			-		
Absorbance		14/02/2008 12:25:45				
		> ~				
•	Tronsmittonce	> ~				
				Apply		
2 2py Result ID	Batch Name	Dell	ABS		Date	
Result ID 1	Batch Name Def ault Bat cf	Coll	ABS	Apply %T 247	Date 20/12/2007 11	
100				%T		
Result ID	Default Batch	0	0.608	%T 247	20/12/2007 11 20/12/2007 11	
Result ID 1 2	Default Batch Default Batch	0 0	0.608	%T 247 92.3	20/12/2007 11 20/12/2007 11 20/12/2007 11	
Result ID 1 2 3	Default Batch Default Batch Default Batch	0 0 0	0.608 0.035 0.045	%T 247 92.3 90.1	20/12/2007 11	



Selecting the print icon opens the *Print* box. This allows the user to choose the printer, the orientation of the printout and gives the option of printing directly or viewing a *Print Preview*.

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	HP CLI 4200 PCL 6
A P	Options
Orientation	- Folder date ponte of some
O Portrait	
Landscape	2. Bulandardare
	 Wrete in Strategy information And parameters
Cencel	Print Preview Print



Selecting the copy icon allows the results to be pasted directly into other programmes (*e.g.* a spreadsheet) for further data manipulation or editing.

Spectrum Scanning

The spectrum screen displays two tabs *Methods* and *Results*.

The *Method* tab displays the *Method Details*, *Accessories Used* (if any) and *Information* of the spectrum scan (this information cannot be edited).

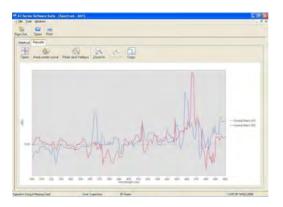
Spectrum Abt	l.		
Method Result	8		
	Method Detnils		
	Mode:	Spectrum	
	Start Wavelength (n	vm): 300.0	
	End Wavelength (na	n): 500.0	
	Plot Interval:		
	Measurement Mode	e se	
		- (Aulia scale)	
	Y-Axis M		
	Y-Axis M	axomum	
	Method Security		
		Wevelength (nitrati	
	Accessories Used		
	a pport office		
	Information By: Supervisor	Dete: 13/02/2008 19:25:06	

The *Results* tab displays a table of the all the results in the chosen method. The desired results can be opened by highlighting the required data line and selecting *Open*, the chosen spectrum is displayed.

Select the scan the	at you wish to display on the chart.	Metod (Fernih) Den Amsandrover Peshind Valley 20mh Copy
Batch Name	Date	
Default Batch 001	13/2/8 19:26:20	
Default Batch 002	13/2/8 19:26:46	
Default Batch 003	13/2/8 19 27 19	
		- my - Mary Mary My

Open

Selecting the open icon displays a table of all of the results. Highlighting the desired result and selecting **Open** will overlay the chosen spectrum.

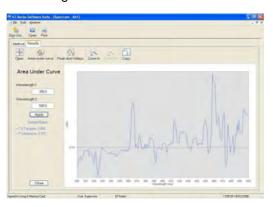


Holding the cursor over the spectrum trace or the data name will highlight the chosen spectrum and fade any other spectra.

To return to the original spectrum select the open icon and reselect the original data set.

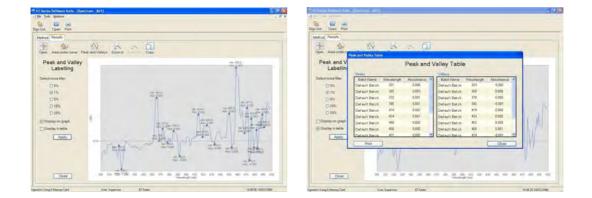


Selecting the area under curve icon displays the following screen. Inputting the required wavelength limits and selecting *Apply* will calculate the area under the curve to both the tangent and the baseline.





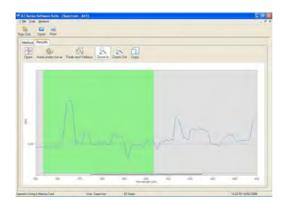
Selecting the peaks and valleys icon displays the following screen. Selecting the required noise filter and *Apply* will display the both the wavelength values and the absorbances. These values can be displayed on the spectrum, in a table or both by selecting the appropriate boxes. Alternatively selecting a peak or valley with the cursor will manually label the wavelength and absorbance value.



To exit from the Peaks and Valleys screen select Close.



Selecting the zoom in icon displays the green 'zoom area' on the spectrum. Placing this over the desired area and clicking the left mouse button will zoom in to the green highlighted area. This process can be repeated up to four times. Once zoomed in it is possible to return to the previous zoom level by selecting the zoom out icon.





Selecting the print icon opens the *Print* box. This allows the user to choose the printer, the orientation of the printout, what data is displayed on the printout and gives the option of printing directly or viewing a *Print Preview*.

Print	
th	Select the printer that you wish to print to
	HP CLJ 4700 PCL 6
7 P	Options (2) Print current graph
Orientetion	Print all data points of scans.
O Portrait	See (more and wellays see at
Landscape	- interplate -
C. Marshrought	sent in a straige demonstration
Cancel	Print Preview Print



Selecting the copy icon allows the results to be pasted directly into other programmes (*e.g.* a spreadsheet) for further data manipulation or editing.

Multi-Wavelength

The multi-wavelength screen displays two tabs *Methods* and *Results*.

The *Method* tab displays the *Method Details*, *Wavelengths*, *Accessories Used* (if any) and *Information* of the multi-wavelength measurement.



Selecting the edit sum icon allow the *Measurement Mode*, *Method Security*, *Sum*, *Primary* and *Secondary wavelengths* to be edited.

dethod	Results					
	Method Detail	ls			-	
	Mode		Multiverve	elength	1	
	Measuren	nent Mode:	68S	*		
	Dwell Time	e:				
	Reading T	ype:	Assessed			
	Sample Ty	ape.	Congle			
	Method Se	ecurity:	Private	-		
	Wavelengths					
	Wavelengths Wavelengths	Used 1: 2	400 450	3: 4:		
	and the second second		4511		*	
	Wavelengths	2:	1-A2)	4	velength 2 ¥	
	Wavelengths Sum: Primary	2: (A1/A2) & (A	1-A2)	4	VI	
	Wavelengths Sum: Primary wavelength: Constants, K1:	2: (A1/A2) & (A Wovelength	1+A2) 1 Seconda wavelen	4	velength 2 v	
	Wavelengths Sum: Primary wavelength: Constants.	2: (A1/A2) & (A Wovelength	1-A2) 1 V Seconda 1 vovelen	4 gth: Wa	velength 2 v	
	Wavelengths Sum: Primary wavelength: Constants, K1:	2: (A1/A2) & (A Wovelength K3 K4	1+A2) 1 Seconda wavelen	4 gth: Wa	velength 2 v	

Measurement Mode can be set as either %T or Absorbance. The **Method Security** can be set to **Private, Public** or **Read-Only**. **Sum** can be altered to select one of the three available multi-wavelength equations and the **Primary** and **Secondary Wavelengths** can be altered to any recorded wavelength.



After inputting the required parameters select the tick icon to save the changes or the cross icon to cancel

The *Results* tab displays the data of the multi-wavelength measurement alongside the results of the *Sum* calculation.

ethod Res	olts			
	7			
Open D	apy			
Bat	ch: Default Ba	ach, Sa	emple ID = 1	
	0.000 A	BS	400.00 nm	
	0.000 A	BS	450.00 mm	
A1			500.00	
A1 A2	0.000 A	BS	500.00 hm	
			550.00 nm	



Selecting the open icon allows access to the other results saved in the method.



Selecting the print icon opens the *Print* box. This allows the user to choose the printer, the orientation of the printout and gives the option of printing directly or viewing a *Print Preview*.

th	Select the primer that you wish to print to
	HP CLJ 4700 PCL 5
A A	Options
Drientation	- Follenderspontent room
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DLandscape	 Rožanskoudardave
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		1

Selecting the copy icon allows the results to be pasted directly into other programmes (*e.g.* a spreadsheet) for further data manipulation or editing.

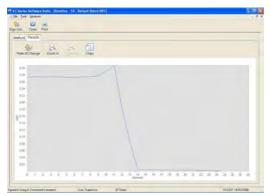
Kinetics

The kinetics screen displays two tabs *Methods* and *Results*.

The *Method* tab displays the *Method Details*, *Y-Axis Set-up*, *Concentration Settings*, *Run Settings*, *Accessories Used* (if any) and *Information* of the kinetics measurement.

inelies - 1	0 - Default Batch 001		
mod Re	suits		
	Method Details		
	Mode:	Kinetics.	
	Measurement Mode:		
	Wavelength		
	Resolution:		
	Units:	pp=	
	Method Security:		
	Y-Addi Setup Admi Scela		
	Y-Axis Minimum	0.830	
	Y-Axis Maximum:		
	Concentration Settings		
	Calibration Standard:		
	Factor		
	Offset		
	Run Settings		
	Run Time (sec): 300	Log Time (sec):	
	Start On Level	Start Level	
	Apparent Land		

The *Results* tab displays the chosen result.





Selecting the rate of change icon displays the following screen. Entering the required *Start Time* and *End Time* automatically updates the *Measurement*, *Mean*, *X* and *Y* calculations.

Alternatively holding down the left mouse button and dragging over the desired area edits the *Start Time* and *End Time*. To return to the original *Result* tab screen select *Hide*.

Arthod Presults												
Rate of Change	S.											
Rate of Change Measurement	200.0				_							
Sint Time (seconds)	129											
1	12											
End Time (seconds)	121											
25	10											
	1.24											
Time Course 1	- 224-1											
	23.00											
Monsument	9											
-0.88353157	10											
Moen	1.11											
1796	1.00											
x	100											
	1.04											
44.802502 Y:												
	104					1 14						



Selecting the zoom in icon displays the green 'zoom area' on the spectrum. Placing this over the desired area and clicking the left mouse button will zoom in to the green highlighted area. This process can be repeated up to four times. Once zoomed in it is possible to return to the previous zoom level by selecting the zoom out icon.



Selecting the print icon opens the *Print* box. This allows the user to choose the printer, the orientation of the printout, what data is displayed on the printout and gives the option of printing directly or viewing a *Print Preview*.

Print	
Th	Select the printer that you wish to print to
	HP CLJ 4700 PCL 6
A A	Options
Orientation	Print all data points of scans.
O Portrait	Construction and wellings are a
Landscape	- Contrary (date is not
	Print rate of change information
Cancel	Print Preview Print



Selecting the copy icon allows the results to be pasted directly into other programmes (*e.g.* a spreadsheet) for further data manipulation or editing.

Quantitation

The quantitation screen displays two tabs *Methods* and *Results*.

The *Method* tab displays the *Method Details*, *Y-Axis Set-up*, *Accessories Used* (if any) and *Information* of the kinetics measurement. By clicking on *View Calibration Standards* the calibration standards used in the result are displayed.

Quantitation	i - 6 Cell		
Aethod Res	ulta .		
	Method Details		
	Mode:	Quantitation	
	Wavelength	450	
	Measurement Mode:	185 -	
	Operating Mode	Monalt n	
	Curve Fit	Marcowitz -	
	Dwell Time:	@ seconds	
	Method Security		
	Y	uha incede-	
	Y-Axis Minimut	<	
	Y-Axis Maximu		
	View	Selibration Standards	
	Accessories Usad		
	Information		
	By: Generic	Date: 22/01/2008 16 12:04	

The *Results* tab displays the calculated concentrations in a table or displays the curve fit.



Selecting the view table icon displays the calculated concentrations in a table



Selecting the view curve fit icon displays the curve fit.



Selecting the print icon opens the *Print* box. This allows the user to choose the printer, the orientation of the printout, what data is displayed on the printout and gives the option of printing directly or viewing a *Print Preview*.

Print		
A	Select the primer that you wish to print to	
	HP CLJ 4700 PCL 6	14
2 P	Options Contractory of the	
Orientation	· · · · · · · · · · · · · · · · · · ·	
O Portrait		
Landscape		
	E soon of the side states and	
	Print curve fit	
Cancel	Print Preview Print	



Selecting the copy icon allows the results to be pasted directly into other programmes (*e.g.* a spreadsheet) for further data manipulation or editing.

Signing Out & Logging In As A Different User



Once all of the required data processing has been completed select the sign out icon to return to the main **67-Series Software Suite** screen.



Selecting the sign in icon opens the sign in dialogue box and allows other users to process their data (refer to the *Getting Started* section for sign in dialogue box details).

Exiting 67-Series Software Suite



Once all of the data has been processed select *Exit* from the *File* menu to exit the *67-Series Software* Suite.