# Welch Allyn<sup>®</sup> CardioPerfect<sup>™</sup> Workstation Installation Guide

# INSTALLING CARDIOPERFECT WORKSTATION SOFTWARE & ACCESSORIES ON A SINGLE PC

#### For software version 1.6.5 or later

For network installation, please refer to the Network Installation Manual or contact Welch Allyn technical support.

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This guide shows how to install the software and accessories for the Welch Allyn CardioPerfect Workstation on a single laptop or desktop PC. This guide does not cover installation for networked CardioPerfect configurations, for EMR-connected computers, or thin-client settings.

For a detailed installation procedure, see *WACP Installation*, located on the disc under "Browse the manuals" folder.

### System Requirements

You need the following minimum recommended configuration to work with the CardioPerfect resting ECG, ambulatory blood pressure, or spirometry software modules:

Computer	Tower or desktop PC preferred; laptop or tablet.
Operating System	Windows XP service pack 2 or later; Windows Vista Business Edition, service pack 1 or later; Windows 7 Home Premium, Professiona Ultimate; Windows 8 or Windows 8 Pro;
CPU	P4 (or equivalent) or higher
Hard disk	20 GB with 5 GB free space
RAM	512 MB; 1 GB or higher recommended
Ports	2 USB ports
Monitor size	15" or larger
Monitor resolution	1024 x 768 true color; 1280 x 1024 resolution recommended
Other	DVD-ROM drive

# INSTALLING CARDIOPERFECT WORKSTATION SOFTWARE

### 1 Install the CardioPerfect software and USB drivers.



**Caution** Do not plug in any USB devices during this installation process.



- Make sure that you have administrator rights.
  - Close all running programs.





If this screen does not appear, explore the disc, and double-click  $installer \ (\bigcirc).$ 

(next page)



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😌 User Account	: Control	×
Do yo chang	u want to allow the following program to make es to this computer?	
<b>I</b>	Program name: installer.exe Verified publisher: <b>Welch Allyn Inc</b> File origin: Hard drive on this computer	
Show <u>d</u> etai	ils <u>Y</u> es No	
	Change when these notifications app	<u>ear</u>

This screen might appear.

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↓ ·
岩 Welch Allyn CardioPerfect
Welcome to Welch Allyn CardioPerfect Setup program. This program will install Welch Allyn CardioPerfect on your computer.
¥
윷닐 Welch Allyn CardioPerfect
License Agreement
+
See Welch Allyn CardioPerfect
Registration Information
Please enter the name and company of the registered owner of Welch Allyn CardioPerfect into the fields below. All fields must be filled in to proceed.
Name:
Company:
Serial number:
Release code:
Welch Allyn Cardio Control B.V.
WA. Carolo Perfect Workstation Versions: 1.6.5 Serial #:

Release Code #: **B332C4825573** #4747 #CCG (V/C INT) + SPIRO WACP/F \*: B001404515 Material: PRO-80083 The serial number and release code are located on the inside cover of the disc case.



😸 Welch Select	Allyn CardioPerfect
c	Microsoft SQL Server 2000 Desktop Engine (MSDE 2000) Quick Installation (2 - 5 minutes) Maximum Database size is 268
c	Microsoft SQL Server 2005 Express Longer Installation (17 - 35 minutes) Requires Microsoft .NET Framework 2.0 as part of the installation Maximum Database size is 4 68
Ģ	Microsoft SQL Server 2008 R2 Express Longer Installation (17 - 35 minutes) Requires Microsoft .NET Framework 3.5 SP1 Maximum Database size is 10G8
Welch Allyn	Cardio Control B.V.

Т

Accept the default option.

▼
월 Welch Allyn CardioPerfect
Start Installation
🕞 🖻 Windows Features
An app on your PC needs the following Windows feature: .NET Framework 3.5 (includes .NET 2.0 and 3.0)
Download and install this feature     Windows will get the files that it needs from Windows Update and complete the     installation.     Skip this installation     Your apps might not work correctly without this feature.
Iell me more about this feature Cancel

This screen might appear during the installation of the Microsoft SQL Server 2008 R2 database on Windows 8 operating systems. Select **Download and install this feature.** 



Wait while the CardioPerfect client software installs. It takes a few minutes.

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#### 2 Create a test patient card.



Male Race: Cauca This icon will have been automatically created on your desktop. Double-click to start the CardioPerfect application.

S Welch Allyn CardioPerfect			X-
Eile			
Welch Allyn Cardiol	Perfect		
🚯 Enter logon informa	tion here		
C Use Window K1 author     Use Gabase authoritie     Use Gabase authoritie     Userane     Pasword     Logn     Aways use above logn setting	uest account) ntication ation Egg		
			16
Welch Allyn CardioPerfect	Halp		
		All of Colorador	
Patient W-ELG VExer	Definition	c 86 spirometry	ADP
Patient card Test Jos	¥		×
Fatient card - rest, soe			
General Address   History	cal related data about this p	patient here	
Number:			
99999			
Last Test	Middle	Joe	
Insurance number:	Alternate number:		
Gender: Male	Birth date (M/d/yyyy) 12/13/1967	Age: 40 years	

Fill in the fields with any data you like. This test patient will be used in later steps.

Height 71

▼ 190 lbs

This test patient will remain in your system. Patient cards can be edited but not deleted except by a system administrator.



NEXT STEP: Install and verify all devices that you have purchased: ECG recorder, spirometer, and/or ABPM 6100 recorder. When finished, please see the user information provided with your product.



## INSTALLING THE ECG RECORDER ON A CARDIOPERFECT WORKSTATION

Before you start, install the CardioPerfect Workstation software.

1 Assemble the ECG recorder, and then plug it into any USB port.



### 2 Verify the installation of the ECG recorder.



	Welch Allyn CardioPe	erfect			
	Patient -v <sup>2</sup> ECG		Necollect 🛛 🤞	🍓 Spirometry   🐴 ABP	•
	Patients     A Search     Search	Pi Pi 99	atient: 9999 - Test, Joe,	(M), 12/13/1967	
	999	• 🥐 Go	a		
b	😵 99999 Test, Joe			ANT I	Action
				1	14
(a)	Click <b>Go</b> .				
(b)	Select your tes	t patient.			
(c)	Click ECG.				
			♦		
	Test, Joe		-	- Andrewski -	
	Record Rhythm Event Cancel	Lu C Show Parer		a 🖂 Musela Bar	how
		d signal on Left Leg	P Trange   Actin		- opin
	I LALAN Z NR		. Mrrrrr	~ <b>%</b> ~~~~~	
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	Monitoring	0	00:00		
	You will see so	quare way	ves along v	with this me	ssage:
	"Bad signal on	ı Left Leg.	"		
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Attach the patient cable to the recorder. Attach clips to the ends of the lead wires.



Straighten a large metal paper clip.

Note Do not using a plastic-coated or painted paper clip.

(next page)



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Attach all ten lead wires to the paper clip.



(a) Wait at least 20 seconds for the square waves to level off. When the lines become straight, verify that there are no lead-off messages.

Example lead-off message: Bad signal on V3, V5

If you receive a lead-off message, reconnect the indicated leads, and wait 20 seconds again. Repeat until there are no lead-off messages.

(b) Click Record.



The system takes a 10-second recording and returns to the main screen with your recording displayed. You have now verified that your ECG recorder is properly installed.

# INSTALLING THE SPIROMETER ON A CARDIOPERFECT WORKSTATION

Before you start, install the CardioPerfect Workstation software.

#### 1 Assemble the spirometer, and plug it into any USB port.





With the spirometer, always use the USB extension cable, as shown. This cable helps to prevent damage to the spirometer.



#### 2 Verify the installation of the spirometer.



Attach the flow tube. Attach the calibration syringe as illustrated.



File Edit View Action Tools Hel	
Image: Search     Imag	a policite (M), 12/13/1967 a
(a) Click <b>Go</b> .	
(b) Select your test patient	•
(C) Glick <b>Spirolitetry</b> .	
	↓ ·
Warning	
The calibration becam It is strongly recommer	e invalid due to configuration changes. nded to calibrate the sensor now.
Eile Édit View Action Tools	Help ECG & Recollect A Spirometry & AB WNew Effort Calibrate
Pre-calibration	<b>•</b>
Pre-calibration Selected Flow Sensor:	Velch Allyn SpiroPerfect
Pre-calibration Selected Flow Sensor:	Welch Allyn SpiroPerfect
Pre-calibration Selected Flow Sensor: Lot Code	Welch Allyn SpiroPerfect
Pre-calibration Selected Flow Sensor: Lot Code Calibration Code Swinge Volume (Liter)	Welch Allyn SpiroPerfect
Pre-calibration Selected Flow Sensor: Lot Code Calibration Code Syringe Volume [Liter] Commt Sciencia End	Welch Allyn SpiroPerfect
Pre-calibration Selected Flow Sensor: Lot Code Calibration Code Syringe Volume (Liter) Current Calibration Factor	Welch Allyn SpiroPerfect
Pre-calibration Selected Flow Sensor: Lot Code Calibration Code Syringe Volume [Liter] Current Calibration Factor Calibration Error Tolerance:	Velch Allyn SpiroPerfect
Pre-calibration         Selected Flow Sensor:         Lot Code         Calibration Code         Syringe Volume (Liter)         Current Calibration Factor         Calibration Error Tolerance:         Temperature:	✓ Welch Allyn SpiroPerfect 3000 ml
Pre-calibration Selected Flow Sensor: Lot Code Calibration Code Syringe Volume [Liter] Current Calibration Factor Calibration Error Tolerance: Temperature: Humidity:	Velch Allyn SpiroPerfect
Pre-calibration Selected Flow Sensor: Lot Code Calibration Code Syringe Volume [Liter] Current Calibration Factor Calibration Error Tolerance: Temperature: Humidity: Pressure:	Velch Allyn SpiroPerfect 3000 ml 1 C Social Security (1 %) (* Standard (3 %) 68 'F 500 % 31 inHg
Pre-calibration Selected Flow Sensor: Lot Code Calibration Code Syringe Volume [Liter] Current Calibration Factor Calibration Error Tolerance: Temperature: Humidity: Pressure:	Velch Allyn SpiroPerfect  Velch Allyn SpiroPerfect  3000 ml  1  C Social Security (1 %)  Standard (3 %)  68 'F  60 %  31 inHg  Cancel Next>

The lot code and calibration code appear on the flow transducer box:







8

Push and then pull the plunger in sync with the sideto-side motion of the blue bar. Move steadily, all the way in and then all the way out, without hesitating during the stroke.



Don't worry if your screen says ATS standard has NOT been met. You don't need to meet the standard for this verification.



- (a) Verify that you see a flow loop. Each flow loop looks slightly different.
- (b) Click **Done**. You have verified that your spirometer is communicating with the Workstation.

Before performing spirometry tests, be sure to perform a successful calibration.

## INSTALLING THE ABPM 6100 ON A CARDIOPERFECT WORKSTATION

Before you start, install the CardioPerfect Workstation software.

#### 1 Install two fresh AA batteries in the recorder.

If the recorder is on, turn it off. (**Press and hold** the Start/Stop button for five seconds until the device emits five quick beeps.)



2 Plug the PC Interface Cable into a USB port on your PC.



(a) Right-click on (My) Computer.

The actual screens you see may appear slightly different than what is pictured below.

	Open		
_ N	Explore		
∽om	Search		
	Manage		
	🛿 Scan for threats		
	Map Network Drive		
	Disconnect Network Drive		
	Create Shortcut		
	Delete		
	Rename		
	Properties		

#### (b) Select Properties.

If you have Windows XP, continue to step c. If you have Windows 7 or Windows 8, go to step e.

I

System Re	store	Automa	tic Undates	Tote	
General	Compute	er Name	Hardware	C ced	i 📗
Device Mani	ager				

- (c) Click the **Hardware** tab.
- (d) Click the Device Manager.





(e) Click the **Device Manager**.







- (f) Double-click Ports (COM & LPT).
- (g) Make a note of the number associated with the selected COM port. You will need this number in the next steps. Allow Windows to install the driver.
- 3 Select the proper CardioPerfect settings.



Orde analose authentication     Usemane     Password     Login     Always use above logn refinge	Egi
	Ļ

File Edit View Action	Tools Help	
□ New 2 Open Close Logout Lock comen	Alt+C	Recollect   🍂 Spirometry   tient:
Print Print Preview Print celected formate	Ctrl+P	
Settings Change possionalis		6
Import Export		A at A

Modules	Ambulatory blood pressure
General	General Printing Advanced
	APPN 6100
26	
Exercise ECG	COM3 COM5
Spirometry	ABP Perfect
Ambulatory blood	Connected to:
Recollect	First Erase measurements from the device after storing them into the database

- (a) Click this icon.
- (b) Click this tab.

Select the COM number appropriate for your recorder.
 Use the number you previously made a note of in *Step 2, (g)*.

- (d) Click **OK**. You can leave the main screen open.
- 4 Verify the installation of the ABPM 6100 recorder.

Attach the cable to the recorder.



(next page)



I he recorder turns on. (It turns on and off automatically throughout this procedure.)

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Name new device	<b>X</b>
This device is not yet known to the current data Perfect	base of ABP
Device name: ABPM Unit 4	Done

Т

You can give the recorder any name that you find helpful.

99999 - Test, Joe			
Freeisle			
All		•	
Referring physician		_	
None		•	
Protocol			
Protocol 1	-	Protocol editor	
2/U <u>;</u> mmHg	OK 1	Cancel	
		LOULO	

Please wait	
Communicating with the device	

ile Edit View Actions Tools	Help FCG Recollect A Sciences St 48P APrice	* Dr. Print Province
A	Read back	. Binterpretation i Information
Patients Q. Search     isearch:	Polient 99999 - Test, Joe, (M), 12/13/1967	Test da 9/10/2008 4:17:12 P
Number Name	This test is currently in progress on device 'Device 1'.	
🞗 99999 Test, Joe	Budaumanta	
	Preas measurementer	
с <u></u> н		
Type Date & time // 3/10/2008 4:17:12 PM		
Type Date & time		

The recorder is ready to take a BP measurement.

Disconnect the cable from the recorder.



Press the Start/Stop button to turn the recorder on.

Press the Start/Stop button again to start the BP pump.

Press the Start/Stop button again to stop the BP pump.

When BP stops, verify that the recorder displays an error code ("E" followed by a number).

♦

**Press and hold** the Start/Stop button until you hear a series of quick beeps (approximately 7 seconds) to turn the recorder off.

Attach the cable to the recorder.

(next page)



ABP BPrint
🚺 🖏 Read back
Wetch Allvn CardioPerfect
Elle Edit Verw Actions Jools Help
Patients Q. Search Patient:
99999 - Test, Joe, (M), 12/13/1967 9/10/2008 4:17
¥
Please wait
Communicating with the device
+
Ambulatory Blood Pressure Measurements read back
🐴 99999 - Test, Joe
Specialty
All
Referring physician
Patient use seleen from:
until
8:00:00 ÷
Number of measurements/events present:
Frase measurements from the device after storing measurements into the
database
OK Cancel Help
↓
Please wait
Communicating with the device



Verify that your BP measurement appears in the test patient's record. (Look for an error message in the Comment column.) Your recorder is properly installed.

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