



# Agilent E5240C I/CV 3.0 Automaton Software

## Agilent E5240C I/CV 3.0 Lite Automaton Software

### Technical Overview

#### Overview

Agilent I/CV 3.0 and I/CV 3.0 Lite automation software provide automated test solutions for semiconductor characterization. Both versions support semiconductor parameter analyzers, C-V meters, low leakage switch matrixes, and popular wafer probers. They also provide wizard-based test development, test execution, and sequencing along with data logging and post-analysis tools on Microsoft Windows.®

#### Software Functions

##### Interactive Measurements

I/CV 3.0 and I/CV 3.0 Lite include Agilent ICS as the default measurement tool. ICS provides point-and-click measurements and graphical analysis capabilities for semiconductor parametric measurements. Created setups can be used as measurement algorithms in the script editor.

##### Script Editor

The script editor provides a wizard-based interface for building test scripts used in the execution of automated tests. It allows access to libraries of built-in software components that support functions for creating test plans. Components include:

- Automated sub-die prober movement
- Switch connection execution
- Test algorithm execution
- Pass/Fail determination and processing

- Conditional branching: IF, ELSE
- User variable creation
- Test script commenting

##### Wafer Prober Navigation

I/CV 3.0 and I/CV 3.0 Lite support popular semiautomatic probers as well as several automatic probers. Probe plans can be defined that include sub-die movement for performing automated test of multiple modules or individual devices across a wafer. In addition, interactive prober control can be implemented for analytical applications.

##### Test Execution

Test scripts can be executed automatically on all wafer probers. On manual wafer probers, test scripts can be executed for single devices or single modules, which can include several devices. For semi or fully automatic wafer probers, wafer maps can be combined with die and module

scripts for complete test automation. Test wizards provide step-by-step instructions for entering runtime information, selection of wafer navigation plans, selection of test plans, and starting a test.

##### Auto-Analysis and Test Reporting

Parametric quantities from test data can be extracted and standard reports and graphs can be generated. Supported graphs and reports include:

- Color wafer maps
- Histograms
- Parameter statistics
- Parametric values vs. die location
- Tables of I-V or C-V curve data

##### Software Measurement Tool Support

Test algorithms can be created using the following tools:

- Agilent ICS
- Microsoft VBScript (resident in the script editor)



## Computer System Requirements

### Operating System

Microsoft Windows 2000 Professional or XP Professional with Service Pack 1

### CPU

300 MHz Pentium II-class (500 MHz Pentium III-class or faster recommended)

### Hard Disk

5 GB available space (20 GB recommended)

### Memory

128 MB for Windows 2000 Professional (256 MB recommended)

256 MB for Windows XP Professional

### Disk Drive

CD-ROM

### Software Security

Parallel or USB port required to connect security key

### Control I/F

Supported GPIB card (see requirements below)

## GPIB Card Support

### Agilent

Card	Windows 2000 Professional	Windows XP Pro (Service Pack 1)
8241C (ISA)	X	—
8257A* (USB/GPIB)	X	X

Agilent I/O Library L.02.01 required

\*The 4142B cannot be controlled with the 82357A.

### National Instruments

Card	Windows 2000 Professional	Windows XP Pro (Service Pack 1)
PCI-GPIB	X	X
GPIB-USB-A	X	X

## Prober Support

All prober support is via GPIB.

### Cascade Microtech

S300 with Nucleus version 3.0

Summit 12 k with Nucleus version 3.0

PS- 21\*\*

Cascade Alessi with Galaxy Software version 5.20h\*\*

### Electroglas\*\*

2001, 3001, 408X, 409X, and 1034 with Option D

### SUSS MicroTec

All SUSS MicroTec probe stations using Prober Bench v5.0

## Vector Semiconductor

AX- 2000/VX- 3000, Version 3.2 or later

### Micromanipulator\*\*

8860 with pcProbe 2.6 and pcBridge/4460/9920

TEL\*\*

P- 8LC / P- 12

ACCRETECH\*\*

UF200 / UF300 / UF3000

\*\*Not supported by I/CV 3.0 Lite

## Supported Measurement Instruments

E5270 Series of Parametric Measurement Solutions

E5270B 8 Slot Precision Measurement Mainframe

E5260 Series of High Speed Measurement Solutions

4155A/B/C Semiconductor Parameter Analyzer

4156A/B/C Precision Semiconductor Parameter Analyzer

4284A Precision LCR Meter

4294A Impedance Analyzer<sup>1</sup>

E5250A Low Leakage Switch Mainframe<sup>2</sup>

B2200A fA Leakage Switch Mainframe

B2201A 14ch Low Leakage Switch Mainframe

Keithley 707 Switch

4140B pA Meter/DC Voltage<sup>3</sup>

4145A/B Semiconductor Parameter Analyzer<sup>4</sup>

4142B DC Source/Monitor Unit<sup>4</sup>

4192A LF Impedance Analyzer<sup>3</sup>

4280A 1 MHz C Meter/C-V Plotter<sup>3</sup>

4085M Switching Matrix<sup>3</sup>

<sup>1</sup>VBScript Libraries are supplied

<sup>2</sup>Requires Metrics Hot Fix 10

<sup>3</sup>Not supported by I/CV Lite and instrument does not come with preconfigured parameter extraction routines

<sup>4</sup>Not supported by I/CV Lite

## Ordering Information

E5240C Agilent I/CV 3.0

Automation Software

E5241C Agilent I/CV 3.0 Lite

Automation Software

E5240CU Upgrade Kit from ICS,

I/CV 2.0, I/CV 2.1, 2.1Lite, or

I/CV 3.0 Lite to I/CV 3.0

For more information about Agilent and its products, go to [www.agilent.com](http://www.agilent.com).

For more information about Agilent Technologies semiconductor test products, applications, and services, visit our Website: [www.agilent.com/go/semiconductor](http://www.agilent.com/go/semiconductor) or call one of the centers listed and ask to speak with a semiconductor test sales representative.

### Americas

Brazil (11) 4197-3600  
Canada (French) 1 877 894-4414  
Canada (English) 1 800 447-8378  
Mexico 33 134-5841  
United States 1 800 829-4444

### Asia/Asia Pacific

Australia 1 800 629-485  
China 1 800 276-3059  
Hong Kong 852 2599 7889  
India 91 / 11 690-6156  
Japan 0120 421-345  
Malaysia 1 800 880-780  
New Zealand 0 800 738 378  
Philippines 1 800 1651-0135  
Singapore 1 800 276-3059  
South Korea 080 778-0011  
Taiwan 0 800 047-662  
Thailand 1 800 2758-5822

### Europe

Austria (01) 25 125-7183  
Belgium (0) 2 404-9380  
Denmark 080301040  
Finland 20 547-9999  
France (0) 825 010710  
Germany (0) 18 05 24-63 34  
Greece 20 547-9999  
Ireland 016158393  
Italy 02 92 60 8333  
Luxembourg (0) 2 404-9340  
Netherlands (0) 20 547-9999  
Poland 20 547-9999  
Russia 20 547-9999  
Spain 91 631 3383  
Sweden 020 120-9975  
Switzerland (Italian) (0) 2 92 60 8484  
Switzerland (German) (0) 1 735-9300  
Switzerland (French) (0) 825 010 700  
United Kingdom (0) 7004 222-222

### Middle East

Israel 20 547-9999

Technical data subject to change without notice.

Windows is a U.S. registered trademark of Microsoft Corporation.

UNIX is a registered trademark of the Open Group.

© Agilent Technologies, Inc. 2005

Printed in USA October 23, 2005

5989-1408EN



Agilent Technologies