PSoC® Programmer 3.11 Release Notes

PSoC Programmer version 3.11

Release Date: March 19, 2010

Thank you for your interest in PSoC® Programmer 3.11. These release notes list all new features, installation requirements, supported devices and defects fixed from the previous release.

PSoC Programmer supports PSoC Creator™ and PSoC Designer™ applications as well as supporting secondary application such as the Bridge Control Panel and the Clock Programmer. PSoC Programmer provides a COM layer customers can use to create applications using Cypress hardware.

PSoC Programmer supports all PSoC devices families including PSoC® 1, PSoC 3 and PSoC 5.

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New Features for PSoC Programmer 3.11

This release expands device support for the PSoC Designer 5.1 Beta 1 release, fixes critical defects from the PSoC Programmer 3.10.1 release and has incorporated new selection features for programming and upgrading hardware. This release also contains updates to the Bridge Control Panel.

Redesigned Release Notes:

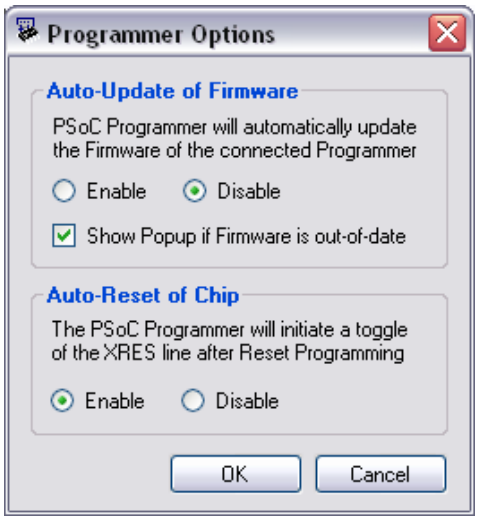
The PSoC Programmer 3.11 release has overhauled the look and feel of the release notes to better convey new features, updates, installation instructions and critical defect fixes.

New Programming Options:

This release of PSoC Programmer includes expanded programming options. These new features are located under the *Options* menu, *Programmer Options*. The two new features include:

- Automatic firmware updates for supported programmers, which allows the user to select automatic firmware updates.
- Auto-Reset of Chip after Reset programming, which allows the user to select if there will be an XRES pin toggle after reset programming.

The image below is screenshot of the User selection for these new features.



Both of these new features are detailed in the PSoC Programmer User Guide located in the *Documents* folder in the root installation directory or linked from the Start menu, *Start>All Programs>Cypress>PSoC Programmer 3.11>Documentation*.

Firmware Update for Miniprog1 and Miniprog3

PSoC Programmer 3.11 will support a firmware update for the Miniprog1 and Miniprog3 programmers.

- Miniprog1 (version 1.78) update supports a minor fix to enable a reset at the end of reset programming.
- Miniprog3 (version 2.92/1.12) update contains significant updates to the ISSP and I2C protocol which will contain noticeable improvements in programming time and communication efficiency.

Performance Enhancements for Miniprog3

There were improvements to the PSoC Programmer 3.11 hardware layer, which have improved programming and bridging times.

The following results were tested using the Miniprog3 programmer.

Firmware updates have been made and users will see reduced programming times with PSoC1 devices. The programming time reductions range from 10-50% and depend on device flash size.

The USB-I2C bridging capabilities for Miniprog3 have also been improved.

Programmer	Clock Speed	Sample Rate Improvement	Comments
Miniprog3	100k	123%	Over BCP v1.0 capabilities
	400k	147%	Over BCP v1.0 capabilities

Bridge Control Panel v1.1

PSoC Programmer 3.11 release includes the Bridge Control Panel v1.1. Bridge Control Panel v1.1 includes the following new features:

New import mechanism to support the Mailbox Manager User Module configuration file.

Allows the user to import configurations into the Bridge Control Panel for rapid serial debugging and tuning. These new features are detailed in the Bridge Control Panel help guide.

The Bridge Control Panel now supports an expanded flag visualization mechanism. This new features improves the drawing of flags to help users analyze logical values within a stream of data. This feature is detailed in the Bridge control Panel help guide.

Clock Programmer v1.3

There are no updates to the Clock Programmer for this release.

New Supported Devices

The following table lists the new device support for PSoC Programmer 3.11

Device Family	Device
CY7C603xx	CY7C60323-LTXC
	CY7C60333-LTXC
CY7C638xx	CY7C63833-QXC
	CY7C63833-LFXC
	CY7C63833-LTXC
CY7C643xx	CY7C64315-16LKXI(T)
	CY7C64343-32LQXI(T)
	CY7C64345-32LQXI(T)
	CY7C64356-48LTXI(T)
CY7C64215	CY7C64215-56LTXC
	CY7C64215-56LTXI
CY8C20x24	CY8C20424-12LQXI
CY8C20x66	CY8C20346H-24LQXI
	CY8C20446H-24LQXI
	CY8C20746A-24FDXI
	CY8C20766A-24FDXI
CY8C22x45	CY8C22345-24PVXA
	CY8C22345H-24PVXA
	CY8C22645-24PVXE
	CY8C22645-24PVXA
CY8C24x94	CY8C24794-24LQXI
	CY8C24894-24LTXI

Device Family	Device
	CY8C24894-24LTXA
CY8CLED0x	CY8CLED02-24LTXI
CY8CLED16P01	CY8CLED16P01-48LTXI
CY8CPLC20	CY8CPLC20-48LTXI
CY8CTMA120	CY8CTMA120-56LTXI
CY8CTMG120	CY8CTMG120-56LTXI
CY8CTST120	CY8CTST120-56LTXI
CYRF69103	CYRF69103-40LTXC
CYRF69213	CYRF69213-40LTXC
CY8CTMA3xx	CY8CTMA375-LTI-07
	CY8CTMA375-LTI-06
	CY8CTMA375-LTI-04
	CY8CTMA375-LTI-02
	CY8CTMA375-LTI-00
	CY8CTMA370-LTI-00
	CY8CTMA391-LTI-02
	CY8CTMA391-LTI-00
	CY8CTMA390-LTI-02
	CY8CTMA390-LTI-00
	CY8CTMA370-LTI-02
PSoC 3	CY8CTMA393-LTI-00
	CY8CTMA393-LTI-02
	CY8CTMA395-LTI-00
	CY8CTMA395-LTI-02
	CY8CTMA395-LTI-04
	CY8CTMA395-LTI-06
	CY8CTMA395-LTI-07
	CY8CTMA395-LTI-08

Update / Upgrade Notes

Upgrade Using Update Manager

All users who installed PSoC Programmer 3.10 or the update, 3.10.1, using CyInstaller should utilize the Update Manager to upgrade their programmer release.

PSoC3 ES1 vs. ES2 Support for PSoC3

PSoC Programmer 3.11 only allows Hex files compiled for ES1 silicon to be programmed into ES1 silicon. The same is true for ES2 silicon. Warning messages will be displayed to users who attempt to program the wrong Hex file revision into the wrong silicon revision. Users will need to update either their software tools (Creator and Programmer) or request ES2 silicon.

Coexistence with Older PSoC Programmer Releases

Users should uninstall all releases of PSoC Programmer 3.06 and earlier prior to installing or updating PSoC Programmer 3.11.

Defects Fixed

The following defects were fixed in this release of PSoC Programmer

Defect Type	Defect	Fix and Impact	Defect
Programmer Application	Reset programming does not leave the part running when programming is completed.	AutoReset option is implemented now for all Programmers. The user can select the AutoReset options by clicking *Options>Programmer Options.*	52818
	When programming in reset mode the PSoC is left in Reset state and the device need an additional Reset toggle or power cycle to run.	The automatic Reset option is available to the user through the *Options>Programmer Options.*	52818
	Speed up the Miniprog3 Port open procedure.	The Open port operation, for the Miniprog3, was reduced.	64749
	CY8C27002-24PVXI Pod can not be detected.	The new CY8C27002-24PVXI silicon revisions have been added to the development tools.	69112
	The device family CY8C28x33 included errors in the parts displayed.	The part numbers were updated.	65898
	When the user initiates the abort command when programming with a Miniprog3, there is a noticeable lag before the action is aborted.	Updates were made to the COM, Service Level and Miniprog3 Firmware to abort actions faster.	60360
	Program/Read /Verify/EraseAll options intermittently fail with CY8C21x23 devices.	Controlling the reset line after reset programming was added to the software selections. There was a minor algorithm update to account for the issues that were seen.	61125
Hardware	Reduce PSoC1 Programming time.	An update to the Miniprog3 firmware has been made to increase PSoC1 programming times.	64750
	Unable to use the Beta Miniprog3 programmer.	The Beta Minprog3 units are no longer supported. Users who receive the warning message, that their Beta Miniprog3 is no longer supported, should file a tech	68688

		support case to receive a production version of Miniprog3.	
	Can't read back the flash after programming successfully the CY8C300x device on the CY3290 DVK.	When the Vdd regulator jumper is set to 1.8V and MiniProg3 voltage is set to 1.8V from PSoC Programmer, the output of Vdd regulator is about 1.65V. The chip-acquire procedure takes too long or fails. If the Vdd regulator jumper is set to 3.6V or 5V, both Reset and Power Cycle mode works correctly. If the Miniprog3 voltage is set to 2.5V or above and the Vdd regulator jumper is set to 1.8V both reset and power cycle modes work correctly.	64684
Installer	The user cannot launch PSoC Programmer without errors appearing.	It was found that the user had a corrupted installation of .NET. The user updated their version of .NET Framework 3.5 Service Pack 1.	65292
	Customer faces issues while installing PSoC Programmer.	It was found that the customer's anti-virus settings were restricting driver installation. The anti-virus software was McAfee.	66029
	PSoC Programmer cannot install on an XP pro SP3 machine.	The user had uninstalled their .NET 2.0 framework. The user reinstalled .NET2.0, uninstalled PSoC Programmer and reinstalled PSoC Programmer. The issue was resolved.	65277
Documentation	Users do not have a Visual Studio license to use example code.	Users can use Microsoft Visual Studio Express which is a free development environment for C#.	64751
	Error in the I2C_ReadData COM documentation, it was missing the parameter and the number of bytes.	The documentation was updated.	64746
	Close port from script, the user can't open the port again.	The user was opening and closing the programmer port repeatedly from a script. The rate of opening and closing was unusually high and caused connection issues.	64752

		The user needs to be aware that the port cannot be opened and closed at a high rate as this affects the PC's ability to connect to the programmer.	
Bridge Control Panel	A variable of more than 15 characters triggers a syntax error.	Issue was resolved within the application.	62596
	Float Values not implemented correctly with Charting.	This issue has been resolved and float values now chart correctly.	66246
	Chart background is too dark on my PC.	This is due to the current window's theme. The Bridge Control Panel now sets the chart background color to a light blue.	70870

Known Issues

The following is a list of know issues for PSoC Programmer 3.11 release.

Defect	Fix and Impact	Defect
The CY3240 does not operate with the CY8CTMA3xx device family.	The user must disconnect the reset line from the CY3240 USB-I2C bridge. The Miniprog3 does not experience this issue and is a replacement for the CY3240 USB-I2C bridge.	60251
Miniprog1 firmware v1.77 causes acquire failure.	In previous releases of the Miniprog1 firmware the reset line was pulled low during power cycle programming. The Miniprog1 now supports devices that have active high reset line states. To account for this, the Miniprog1 now leaves the reset line in a high-z state. The customer needs to be aware of any pull up or pull down resistor circuitry that could hold the chip in a reset state.	69058
Power Cycle Mode for PSoC3 and PSoC5 using the Miniprog3 is implemented with reset toggling.	The Power Cycle mode for the Miniprog3 is currently using the reset line to acquire the target device using both SWD and JTAG protocols. A true Power Cycle implementation will be released with PSoC Programmer 3.12.	69694

Limitations

The following are known limitations with PSoC Programmer:

- You must change the programming mode manually using the provided buttons.
- The supported programming and bridging hardware can only be used by one application at a time. Closing the port in one application releases the hardware for other client applications.
- There is no programming support for wafer sale parts.
- When programming verification fails, the specific failing location(s) are not indicated.
- ICE4000 is no longer supported in PSoC Programmer.
- When using the ICE-Cube or MiniProg1 for programming, PSoC Programmer applies 3.3V to the XRES pin during connection. This may cause power to be applied to the target system. During programming, 3.3V is applied to the target system's SCLK(P1-1), SDATA (P1-0), and XRES pins.
- The MiniProg1 programmer does not support CY8C25/26xxx parts. The ICE-LPT and ICE-4000 programmers supported the CY8C25/26xxx parts. Users will need to user PSoC Programmer version 2.33 or earlier if needed.
- A very infrequent USB connection issue notifies you that an unknown device was detected when a MiniProg is plugged in. Unplugging the MiniProg1 and then reconnecting it solves this issue.
- PSoC Programmer may experience “Can't Acquire Device” errors for CYRF69103-40LFXC.There have been intermittent reports of “Can't Acquire Device” errors, which may be individually chip dependent. Programming another device clears the problem.
- If you select the Fixed Reminder option, please know that there may not be an update for PSoC Programmer currently available. Please reset the reminder interval under the Fixed Reminder, switch to an automatic web update, or disable the update reminder. Close and restart PSoC Programmer to reset the notification in the banner and in the status window.
- CY3210-Miniprog1 may have two capacitors soldered onto the SCL and SDA programming lines causing failures during programming. To remove these capacitors, please contact Cypress technical support for additional steps in addressing this issue.
- The CY3240 USB-I2C Bridge firmware cannot be upgraded in the field. Users are urged to purchase a Miniprog3 programmer-bridge which supports USB-I2C functionality and supports field upgrades.

Installation

System Requirements

The following minimum configuration is required to run PSoC Programmer:

- PC-running Windows® operating systems, including:
  - Windows 2000
  - Windows® XP (32- and 64-bit)
  - Windows® Vista (32- and 64-bit)
  - Windows® 7 (32- and 64-bit)

- Intel® CPU @ 2GHz
- 1GB memory
- 200MB of hard disk space
- USB 2.0

Prerequisite Software

In order to install and run PSoC Programmer, you will also need to install one or more following software programs. CyInstaller will test for these requirements and provide respective download links if the requirements are not met.

- Windows Installer 3.1
- .Net Framework 2.0 SP1 (or higher)
- Adobe Reader (Needed to view any PDF files)

Applications Dependent on a PSoC Programmer Installation

The following applications either require PSoC Programmer to be preinstalled or are included in the PSoC Programmer installation:

- PSoC Designer
- PSoC Creator
- Bridge Control Panel (included in PSoC Programmer Installation)
- Clock Programmer (included in PSoC Programmer Installation)

Update Instructions

As part of the installation process, the Cypress Update Manager utility will also be installed and located on the **Start** menu under the Cypress folder. You can use this utility to update all programs you have installed when updates for them become available.

Follow the instructions provided by CyInstaller.

Installation Notes

The installation process is a set of wizards that walk you through installing various components. You can install PSoC Programmer and various prerequisites from the web, or from a CD. There are slight differences in the process, based on the medium used to install the software. CyInstaller is supported by both a web installation and through an ISO image that can be downloaded and burned to a CD.

The CDs provide the necessary prerequisites and the wizards to guide you through installing the appropriate software. The Web installation requires you to download and install the executables separately. The following sections contain more specific installation details.

Note Do NOT plug in any programming hardware until all software installation is complete.

PSoC Programmer CD Installation

The PSoC Programmer CD contains PSoC Programmer, as well as various prerequisites.

1. Load the CD. The main installer program should run automatically. If not, double-click the cyautorun.exe file to launch it.

2. On the main installer, click the **Install Software for PSoC…** button to launch the PSoC Creator InstallShield Wizard.
3. Follow the prompts on the wizard. The first step will prompt to install PSoC Programmer.

   The CyInstaller for PSoC Programmer opens and displays a series of steps to install PSoC Programmer and various drivers.
4. Continue to follow the prompts until PSoC Programmer and the drivers are installed, and then resume with the main installer program.

Cypress PSoC Kit CD Installation

A kit CD contains PSoC Programmer as well as additional applications such as PSoC Creator or PSoC Designer, documentation, and prerequisites needed for the associated kit. The installation process is very similar to the PSoC Programmer CD installation; however the overall process differs, as follows:

1. Load the CD. The kit installer program should run automatically. If not, double-click the autorun program to launch it.
2. On the kit installer, follow the prompts to begin the installation process. The first step will prompt to install PSoC Programmer.
3. The CyInstaller for PSoC Programmer opens and displays a series of steps to install PSoC Programmer and various drivers.
4. Continue to follow the prompts until PSoC Programmer and the drivers are installed, then resume with the kit installer program.
5. Continue the prompts to install the application IDE's, PSoC Creator or PSoC Designer. Please see the respective release notes for these tools for detailed instructions.

Web Installation

If you are downloading the software from the web you should run the PSoC Programmer executable.

1. Double-click the PSoC Programmer executable file to launch PSoC Programmer InstallShield Wizard.
2. Install all prerequisites as needed.
3. Follow the prompts to install PSoC Programmer. The CyInstaller for PSoC Programmer opens and displays a series of steps to install PSoC Programmer and various drivers. When complete, close the installer.

Please note that some users will experience installation failure using the web installation method, this is commonly due to firewall or administration privileges. Please contact your IT individual for assistance or download the ISO image provided on the Programmer web page and burn the image and install Programmer from the CD.

Device Driver Re-Installation

During installation of PSoC Programmer you are prompted to install the device drivers for PSoC Programmer. If you clicked "Cancel" originally, and now you want to re-install the drivers, please do the following:

Navigate to the PSoC Programmer root installation directory.

Open the *Drivers* folder and run the *driver.bat* file. This installs the PSoC Programmer drivers.

Further Reading

Documentation

Documentation is available in the PSoC Programmer Root Directory under Documents. The documents include *Programmer User Guide*, *PSoC Programmer COM Interface Guide*, and *PSoC Programmer Command Line Interface Guide*.

Updates

Check for software updates to the Cypress PSoC development tools on the following web pages:

PSoC Software Tool	Web Link
PSoC Designer	http://www.cypress.com/go/psocdesigner
PSoC Creator	http://www.cypress.com/go/psoccreator
PSoC Programmer	http://www.cypress.com/go/psocprogrammer

Customer Issues

We recommend that customers who experience any issues with software or PSoC devices please contact customer support at the following phone numbers 1-800-541-4736 (ext. 8) or 1-425-787-4814.

Customers may also file a Tech Support Case at the following web page:

http://www.cypress.com/MyAccount/index.cfm?id=7&source=header

Silicon Errata

The most up-to-date versions of the silicon errata are available on the website at http://www.cypress.com/psoc under Related Documentation.

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