

[www.pixcl.com](http://www.pixcl.com)

PiXCL is a very comprehensive, easy-to-learn and largely self-documenting event-driven interpreted language with its own compiler and code editor. PiXCL 10 is the free community version, and PiXCL 11 is the more capable commercial version. Originally created for the rapid development of Windows image processing applications, it now implements over 900 commands and operators, including 100+ advanced image processing commands. All commands are fully documented in the code editor help system. Any scanner or digicam with a current TWAIN driver is supported, as well as Webcams and industrial Firewire and USB cameras.

The primary benefit of the PiXCL language is that most of the complexity of Windows handling of files, menus, toolbars and mouse events is hidden away from you, letting you concentrate on the application activity rather than the coding process.

For example, you can acquire an image from a scanner or digicam, and display it in a window in about 6 commands. Another example is displaying a bitmap file in the application window: one command, `DrawBitmap(coordinate,filename)`, automatically identifies and loads any one of 15 of the most common image file formats and draws it at the specified application window coordinate.

PiXCL is an Internet connected language, allowing applications to directly construct and send email, display Web pages in a browser and transfer files using FTP with a few simple commands.

A command subset called **PiXCLe** is available in our Decaf Smart Panel embedded devices.





There's also an Extension Command SDK for user-defined commands and support for any device that has its own SDK, such as industrial video cameras, filter wheels, touch panels and digitiser tablets.

PiXCL 10 and 11 provides support for Phidget devices (at present, the 1203, 1012, 1018, 1019 and 1055) with currently around 40 extension commands in a DLL. These commands attach the Phidget devices, allowing

- Digital and Analog input events and values to be passed to the calling PiXCL application.
- Setting of analog input Data Rates
- Digital output pin commands
- Sending of text strings and characters to a TextLCD
- Reception and transmission of IR device codes.

All Phidget extension commands are implemented in a DLL. The C++ source code and Visual Studio project for the DLL is available for users who want to add their own commands or modify the existing command set. While PiXCL is not Open Source, several other PiXCL module source codes are also available for persons wishing to collaborate in ongoing development.

The DLL includes some utility commands with their own floating windows.

	<p><b>The Phidget Selector Window</b></p> <p>This floating window provides a visual selection for available devices. When a button is pressed the calling PiXCL application is notified with the Phidget ID (1203, 1012 etc) at a specified event Label.</p>
<p>Simulator windows for the TextLCD, InterfaceKit 8/8/8 and InterfaceKit 0/16/16 are included in the DLL.</p>	<p>Simulator windows can be used when the hardware is not available during application development.</p>
	<p><b>Text LCD 8-8-8 Simulator Window</b></p> <p>This window is equivalent to the Text LCD hardware. Push buttons are the digital inputs, with a red dot appearing when the switch is closed. Read-only radio buttons are the digital outputs, and 0-500 range slider bars are the analog input equivalents.</p>
	<p><b>Interface Kit 8-8-8 Simulator Window</b></p> <p>Push buttons are the digital inputs, read-only radio buttons are the digital outputs, and 0-500 range slider bars are the analog input equivalents.</p>
	<p><b>Interface Kit 0-16-16 Simulator Window</b></p> <p>Push buttons are the digital inputs, read-only radio buttons are the digital outputs.</p>

## What can you do with PiXCL and your Phidget devices?

- Home automation and security
  - When the doorbell rings display a video window, turn on lights
  - Snap a frame every N seconds, use image processing commands to detect movement, capture a video sequence and adjust for ambient light automatically.
  - Log the event, send an email, or upload an image to a security website.
- Automotive
  - Create your own automotive diagnostic software and tools
  - Use automotive grade temperature and pressure sensors connected to analog and digital inputs.
- Laboratory equipment or Process control
  - Use the Phidget analog and digital I/O ports with sensors to automatically manage a process
  - Add external switches and display commands in the TextLCD888
- Microscopy
  - Attach a Firewire or USB video camera to a microscope and use the image processing and advanced image analysis commands to identify objects and gather statistical information.
  - Log images and statistics into a database or spreadsheet.
- Integration of Decaf Smart Panel with Phidget devices



PiXCL is not recommended for Robotics applications that require near real-time responses or multi-threaded operation. This is far better done using C/C++ and similar compiled languages.

See [www.pixcl.com](http://www.pixcl.com) Here you'll find detailed information on

<ul style="list-style-type: none"><li>• PiXCL program development</li><li>• Links to instructional videos on YouTube</li><li>• Lists of image processing commands</li></ul>	<ul style="list-style-type: none"><li>• Technical Support Pages, FAQs and News</li><li>• Registration page</li></ul>
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