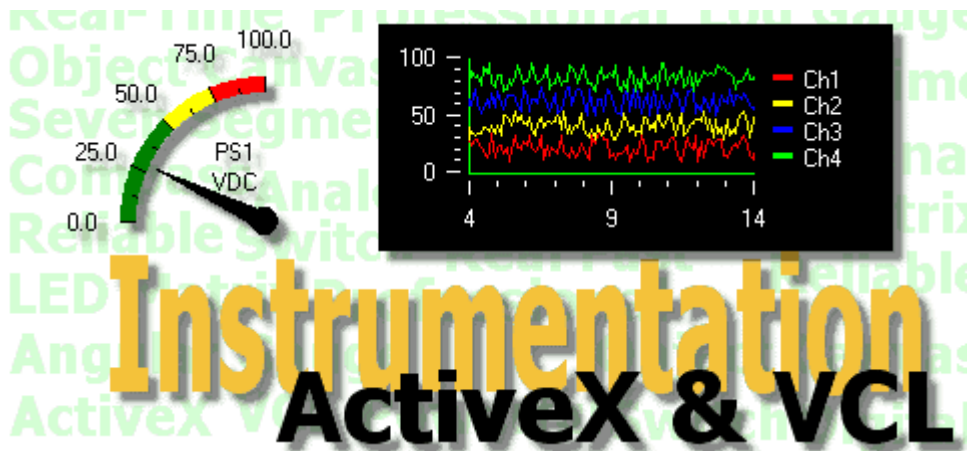


Iocomp Software

The Standard in Industrial Automation and Scientific Components for Real-Time Applications



Instrumentation Pack
Professional Pack
Plot Pack

Getting Started Guide

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Chapter 1 — Introduction

Welcome

Welcome to Iocomp Instrumentation Components 2.0, including many exciting new features not found in many other ActiveX and VCL components.

Iocomp Software is committed to providing reliable, feature rich components that will enhance your automation and instrumentation programming projects. It's ideally suited for real-time applications where speed is of the utmost importance while maintaining a professional, polished user interface.



Should I Use ActiveX or VCL?

Iocomp components are distributed as two different component architectures. Both architectures are included with your product...

ActiveX

Our ActiveX version is compatible with all 32-bit ActiveX compatible design environments such as Microsoft Visual Basic, Microsoft Visual C++, Borland Delphi, Borland C++ Builder, HP VEE, Clarion, Microsoft Office, Power Builder, and many other programming environments.

For Borland products, it is recommended that you use the native VCL components instead of the ActiveX components. This is because there are many advantages to using VCL components in Borland development environments including the ability to compile our components into your single EXE file.

VCL

Our VCL version is compatible with all 32-bit Borland design environments. Full source code is included with our VCL versions. VCL components are not compatible with Microsoft Visual C++ or any other non-Borland development environment. Although our ActiveX controls are compatible with Borland, it is recommended that you use our VCL controls with Borland products so that you can take advantage of additional features.

By using the VCL components in Borland products, you have the ability to compile-in our components into your application. This would enable you to distribute your application without having to include separate component files. You are also able to make changes to the source code as you see fit as our VCL components are distributed with full source code (Open Source).

Key Features

Iocomp Components have been designed to provide a rich and robust set of features to simplify your program designs. Here is a list of our key features...

- High Speed for Real-Time Applications
- Vector-based graphics for greater design flexibility
- Easy to use Theme Support
- Component Transparency
- Custom Property Editors
- Easy to Use Theme Support
- Multiple Thread Management
- And Much More...

System Requirements

- 32-Bit Microsoft Windows System (Windows 95, 98, ME, NT, 2000)
- Development environment supporting either ActiveX or VCL components

Installation Instructions

Please refer to Chapter 2 for more information about installing and uninstalling our components.

Getting Help

There are several ways for you to obtain help on using Iocomp Components in your programming task.

- **Getting Started Guide:** this guide is intended to provide very basic information for the beginning user to bring them up-to-speed quickly so that they can begin using our components.
- **Help Files:** these files are intended to provide immediate assistance during your programming task.
- **Examples:** our website and selected software CD distributions contain many different examples of using our components in popular programming environments such as Microsoft Visual Basic, Microsoft Visual C++, Internet Explorer, Borland Delphi, Borland C++ Builder, and many more. Each example may cover very simple aspects of a particular component, may cover in-depth usage of a particular component feature, or may cover a wide range of features and components.

See Chapter 5 for more information about Getting Help and More Assistance.

Contacting Iocomp Software

You can always contact Iocomp Software support staff directly for assistance with our software products at the following telephone numbers and Internet addresses...

- Customer Main Telephone: 510-979-1437
- Customer Support Telephone: 510-979-1340
- Customer Support Email: support@iocomp.com
- Other Iocomp Products and Upgrades: <http://www.iocomp.com/products>
- Customer Support Website: <http://www.iocomp.com/support>

Iocomp is committed to providing reliable, timely, and professional technical support to all of our customers. Please let us know if you need assistance with our controls, need a particular change or feature added to one of our components, or if you are having a problem with one of our software products. We at Iocomp believe that our customers are the best source of feedback and ideas for our current and future lines of products.

We want to make sure that our products satisfy your highest expectations and provide the features and functionality that you expect from the leader in Instrumentation and Automation programming.

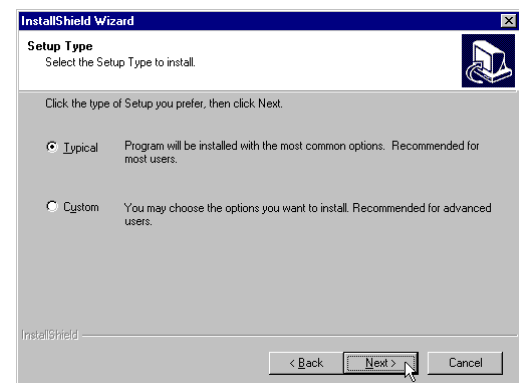
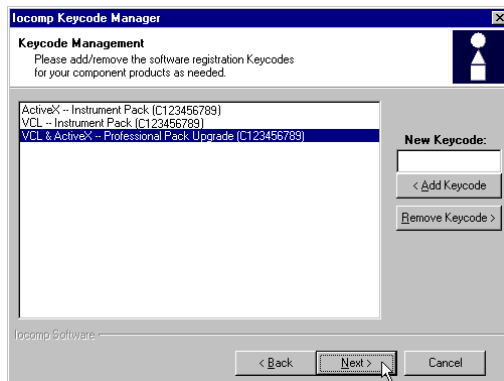
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Chapter2 – Installation

Quick Start

CD-ROM Installation

1. Insert the CD-ROM into your CD-ROM drive. The installation should start automatically if you have the AutoRun option turned ON, otherwise you may need to manually run the SETUP.EXE program located in the root of the CD-ROM.
2. When prompted for your name and company, fill in the appropriate information.
3. Select a directory to install the Iocomp Component products.
4. Select “Typical Setup”. This option will install all appropriate files that are required for your product and for the development environments automatically detected on your computer system.
5. Enter the keycode or keycodes that were provided with your software. Keycodes will



unlock the software contained in the installer. Please keep this number in a safe place as you may need it for future installations/updates and when contacting us for free Technical Support. If you are installing an product upgrade, you will need to enter your upgraded product keycode (the old keycode) first before you can enter the upgrade keycode.

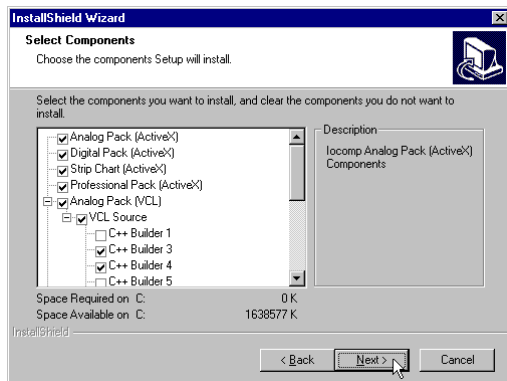
6. If you are installing VCL components, please refer to the installation notes that are installed into the software directory for additional instructions on integrating the components into your development environment. [Also see the Iocomp program group in the Start menu]

Electronic Delivery Installation

1. Run the single-file setup program that you downloaded from your online merchant. If prompted to overwrite files, always say yes. This will overwrite any older installation files from previous versions of Iocomp Components and ensure that your files are up-to-date.
2. When prompted for your name and company, fill in the appropriate information.



3. Select a directory to install the Iocomp Component products
4. Select “Typical Setup”. This option will install all appropriate files that are required for your product and for the development environments detected on your computer system.
5. Enter the keycode or keycodes that were provided with your software. Keycodes will unlock the software contained in the installer. Please keep this number in a safe place as you may need it for future installations and/or upgrades and when calling for Technical Support.
6. If you are installing VCL components, please refer to the installation notes that are installed into the software directory for additional instructions on integrating the components into your development environment. [Also see the Iocomp program group in the Start menu]



Custom Setup

The typical setup option will attempt to automatically detect and install the appropriate components for those development environments that you have on your computer system. If you need to specify additional compilers (VCL components only) or if you just want to have more control over what components/files are installed on your system, you can select the Custom Setup Option.

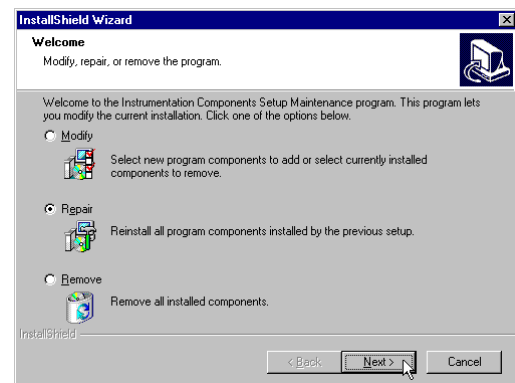
This option will present to you a listing of all of the files that will be installed on your system.

Repair

You can always re-install, or repair, your installation at anytime by running our setup program from the Add/Remove control panel and then selecting the repair option. This procedure will recopy all of the components to your system, overwriting any changes that may have been made to the components either by you or by a Beta Fix (provided from Iocomp) that you may have been testing. Please be sure to backup any changes that you may have made to the component source code (available with VCL components only) before repairing your installation as all of the source files will be overwritten with fresh copies.

Service Packs

Iocomp will periodically release Service Pack releases of our products to provide you with the latest feature enhancements and bug fixes that we may include with our software. Service Packs will always be free, and any bugs that are found in our products will be fixed for free. The only charge will be for new product releases or major enhancements that we may release from time to time (these will be referred to as Upgrades). You can always find a list of Service Packs available at our website:



<http://www.iocomp.com/download>

Hot Fixes

In-between Service Packs, we may identify an important problem or may just want to make a new feature of our component line available to our customers as quickly as possible. These types of updates are generally not 100% tested as our Service Packs, so you should consider these types of updates as “beta” quality updates. After a Service Pack is released, all of the Hot Fixes are removed from our servers as the updates in these Hot Fixes are always rolled into the latest Service Pack release. You can find a list of Hot Fixes available at our website:

<http://www.iocomp.com/download>

Uninstall

You can completely remove our components by running our installer from the Add/Remove control panel. You may need to manually remove any of our ActiveX components that you may have installed into other directories (such as the Windows system or system32 directories).

Please note that you may need to reboot your computer to finish the uninstallation of our components.



Adding/Removing Components

You can add and remove individual libraries, help files, and other support files by opening our installer from the Add/Remove control panel. After opening our installer, select the Add/Remove option to make modifications to our installation.

Adding/Removing VCL Development Environment Support

You can add support or remove support for individual versions of Delphi and C++ Builder by opening our installer from the Add/Remove control panel and selecting the Add/Remove option. You will be asked if you would like the installer to automatically select support for those versions of Delphi and C++ Builder that it detects on your system, or if you would like to manually select installed environments.

Adding Support for a New Borland Compiler

1. Install the latest Service Pack available from our website. When new compilers come out from Borland, we make every attempt to include support for that compiler in our latest Service Packs. You can find our available updates at our website:
<http://www.iocomp.com/download>
2. Open the Add/Remove control panel applet and select Iocomp Components.
3. Select the Add/Remove option and then either let the installer detect the compiler for you or manually select the compilers that you wish to support.

4. Complete the installation and follow the release notes for your compiler to complete the installation.
5. If you are looking for our CLX Linux support (Available April, 2001), you will need to contact Iocomp Support for a separate installer for Linux Platforms.

InstallShield One-Click Installation

1. This type of installer only downloads those components and files that you selected during installation, and generally requires less time to download than our standard Electronic Installer. This type of installer requires a connection to the Internet to complete the installation process or to use the Add/Remove, Repair, or Automatic Update features.
2. If you receive a “CRC Error” during the installation process when using the Add/Remove Control Panel, this is InstallShield way of notifying you that there is an update available on our website. Simply goto our support website, select Latest Service Packs, and then download the latest service pack from that web page. Future installers will do this for you automatically from the Add/Remove control panel.
3. If you received a small, single EXE file when you first received your product, you can always use this program to update your installation at any time with the latest version of our products from our server. Simply execute the program. If it notifies you that there is an update on our servers, you are given the option to continue with the update. If you are only taken to the Add/Remove, Repair, and Uninstall screen, then no update is available.

Chapter 3 – Getting Started (ActiveX)

Microsoft Visual Basic

The easiest way to start using ActiveX components in Visual Basic is to drop one of the components down on a form and start modifying the control's properties using the built-in property editor.

Setting Up Your Project To Use Components

In Visual Basic, start a new, blank project or open an existing project. You will notice that a small collection of controls are available in your Component Pallet. This collection of controls includes buttons, labels, pull-down boxes, picture frames, checkboxes, frame

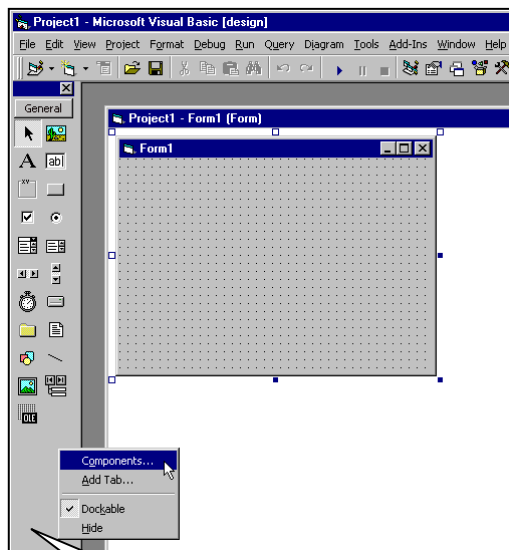
controls, etc. that come with Visual Basic which you can use in your project.

You can add additional ActiveX controls to this Control Pallet by right-clicking on the Control Pallet and selecting "Components..."

You can also add additional ActiveX controls by selecting "Components..." from the Project menu.

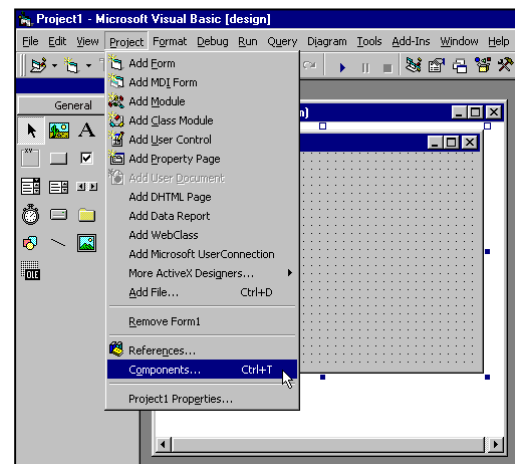
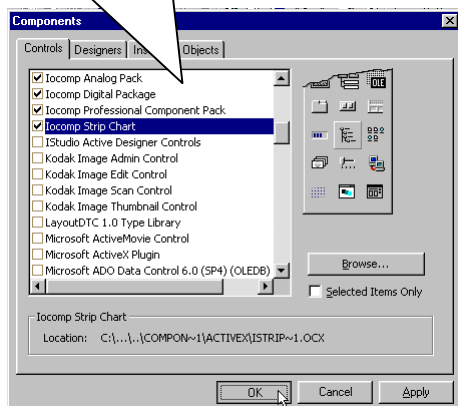
You will be presented with a list of controls that are available for use with Visual Basic.

To add Iocomp Components to your project, you will need to select one or more of our component libraries. If you have purchased our Professional Pack collection (which includes all 48 of our components), then you should have four libraries available for addition to your project. If you purchased our Plot Pack collection (which includes 2 components), then you should have one library available for these components. You only need to add those component libraries to your project that you plan on using.



Control Pallet

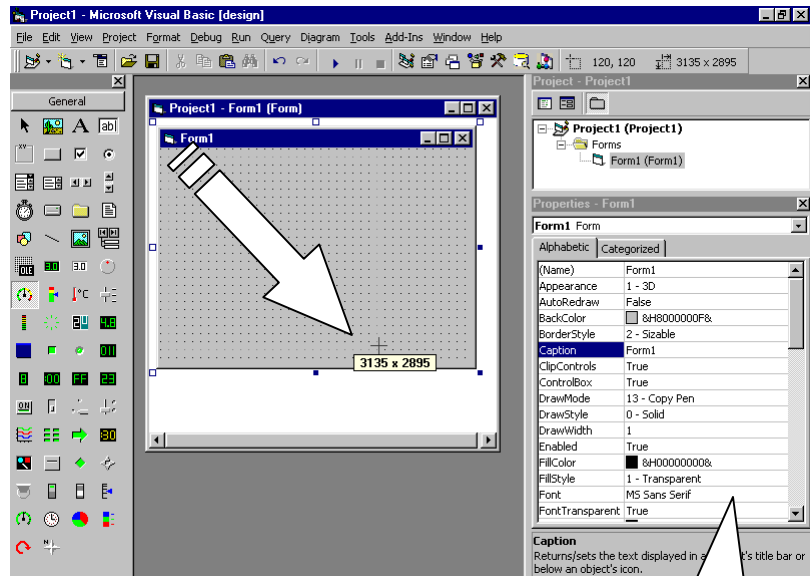
Listing of all available ActiveX controls registered on your computer



Refer to Appendix A for a listing of which components are included in what component libraries. After selecting those component libraries that you wish to use, and clicking on the OK button, the additional controls will show up on your Control Pallet.

To add components to your form, all you need to do is to select one of the components from the Control Pallet and then drag and draw-out the component on your dialog screen to the size that you require. (i.e. click your mouse button onto the form, and drag the mouse while holding the mouse button down until you have drawn the control to the size you require)

You can also double-click on the component in the component pallet to have Visual Basic create the control on the form to a predetermined size.



Property Window

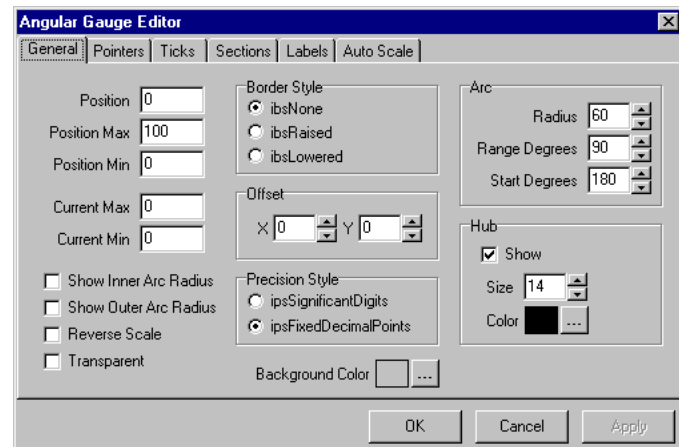
Modifying Control Properties

Each control has a built-in Property Editor that organizes and allows you to modify properties of controls that you place on your forms.

To access the built-in Property Editor, just right-click on a control that you have placed on your form, and select “Properties”.

You can also access properties of controls using Visual Basic’s Property Window, however this list is not as well organized as the built-in property editors.

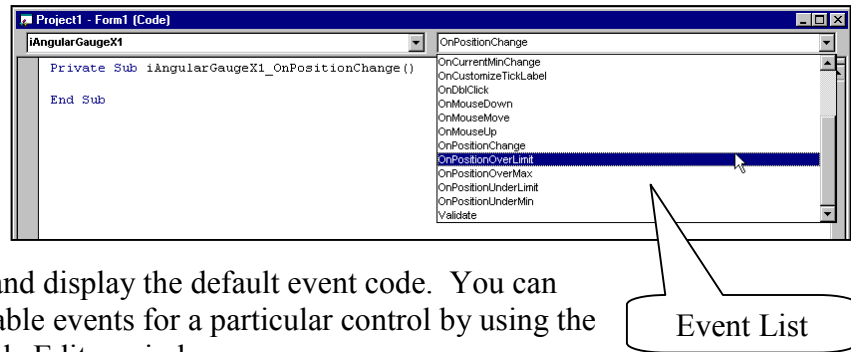
Visual Basic’s Property Window will also contain additional properties that are supported by the container (e.g. right, left, top, bottom, etc.)



Generating Event Code

Events are blocks of code that are triggered to execute by changes in the control, usually by a user clicking on the control or pressing a key if the control has the window focus.

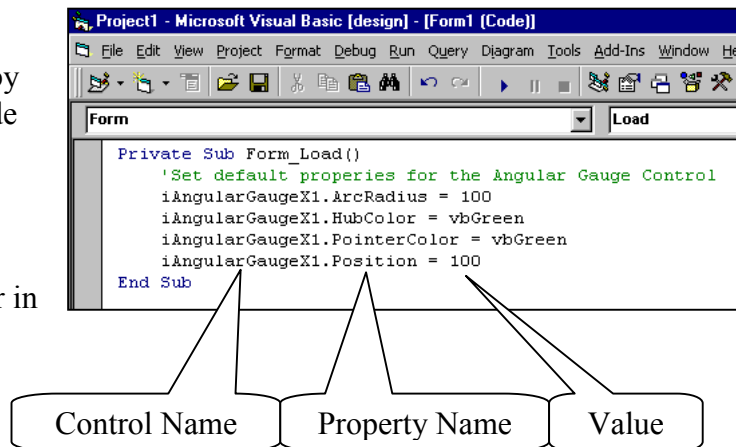
To have Visual Basic automatically generate the code skeleton for the default event of a control, just double-click on a control in the Form Editor. VB will then take you to the Code Editing Window, and display the default event code. You can also obtain a list of all available events for a particular control by using the pull-down located in the Code Editor window...



Basic Programming

You can set properties and execute methods of the control at run-time by editing the program code in the Code Editor Window. The following example shows how to set some properties of the Angular Gauge control.

[See the examples on our website or in selected CDs for more in-depth examples for particular controls]



Accessing Help Files

Iocomp help files are available at anytime while you are designing your application. You can access our help as follows...

- Click on a component in form view and press **F1** to display general help on that component.
- Select a property from the Visual Basic Property Window and press **F1** for detailed help on that particular property. Note: container properties will bring up VB help.
- Select or place your cursor on a property or method in the Visual Basic Code Editor and press **F1** for detailed help on that property or method.

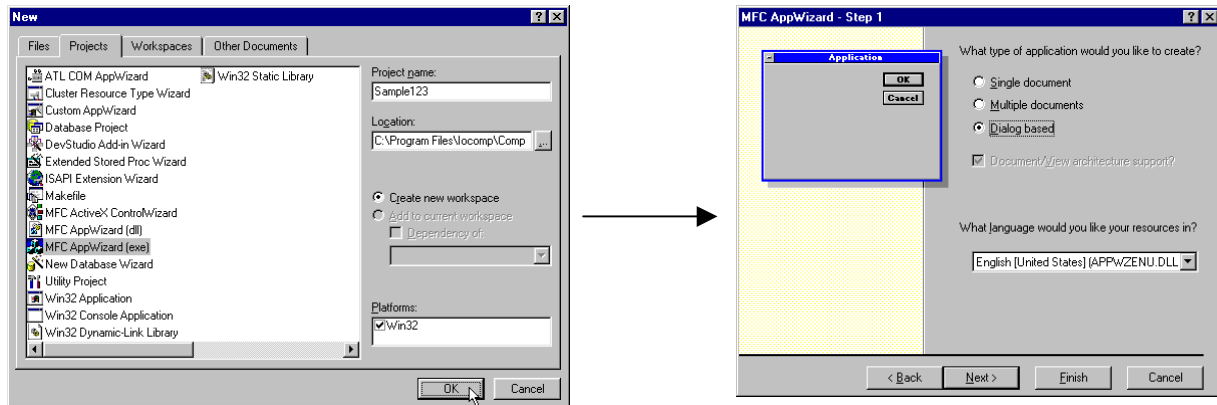
Microsoft Visual C++

Setting Up Your Workspace To Use ActiveX Components

Working with ActiveX controls in Visual C++ is easy, however you need to pay particular attention to how you initially setup your workspace. We will create a sample application

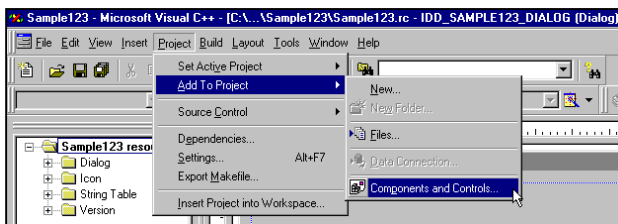
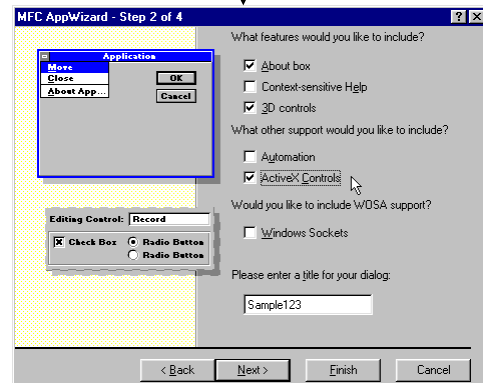
below, step-by-step, using Microsoft Visual C++ MFC App Wizard. To keep it simple, we will begin by creating a MFC dialog-based application.

Select File/New in Visual C++ and then use the MFC AppWizard to generate a new project as follows...



Select “MFC AppWizard(exe)”, enter a Project Title, specify a location on your hard drive, and then click on OK. Select Dialog Based application and then click the NEXT button.

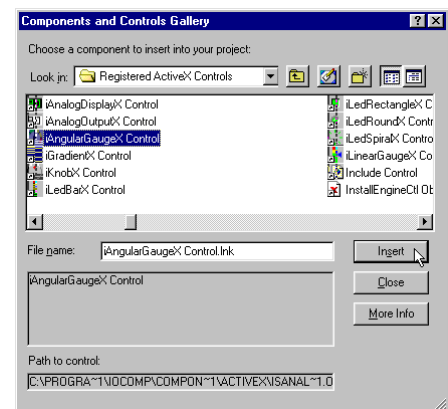
Be sure to check “ActiveX Controls” support when you create your MFC application as all Iocomp components use ActiveX interfaces, and will require this support to work in Microsoft Visual C++. Click on FINISH to exit the MFC Application wizard and create your project.

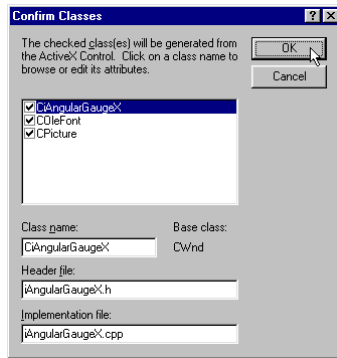


After creating your workspace, you will need to individually add ActiveX components that you wish to use in your application. Be careful to only add those components that you need as it is difficult to remove them once they have been added.

To add an ActiveX component to your project, select “Add To Project/Components and Controls...” from the Project menu.

Next, double-click on “Registered ActiveX Controls” folder to display a list of all ActiveX controls installed on your computer.





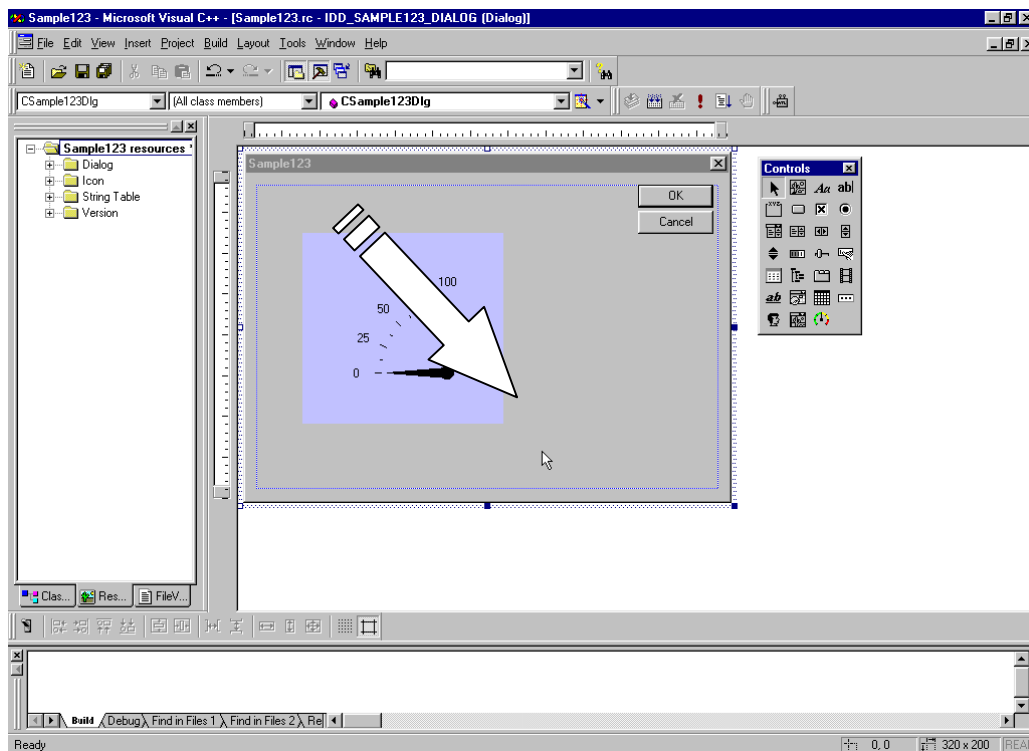
All components from Iocomp software begin with “i”, so scroll through the list as there will be many, if not hundreds of controls listed. In this example, we will be adding the Angular Gauge control, so find and highlight the “iAngularGaugeX Control”.

Click INSERT to insert the control into your project. Visual C++ will ask to confirm this, click on OK. It will then ask you to confirm the included Class information for the ActiveX wrapper. Click OK to leave these at their default values. Add any additional controls to your project you wish to use and then close this dialog.



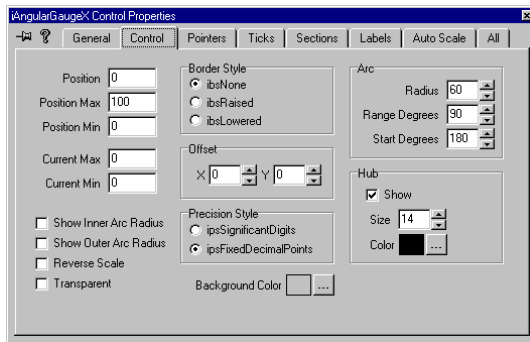
After adding ActiveX controls to your project, you will find them available for use in your control pallet, as shown on the Control Pallet to the right.

To add, for example, the iAngularGauge control, simply select the control from the pallet and then drag and draw-out (i.e. click your mouse button onto the form, and drag the mouse while holding the mouse button down until you have drawn the control to the size you require) the control onto your open dialog.



Modifying Control Properties

At design-time, you have the ability to set properties of ActiveX controls. To view and modify properties of our controls, simply right click on a control and select **PROPERTIES**.



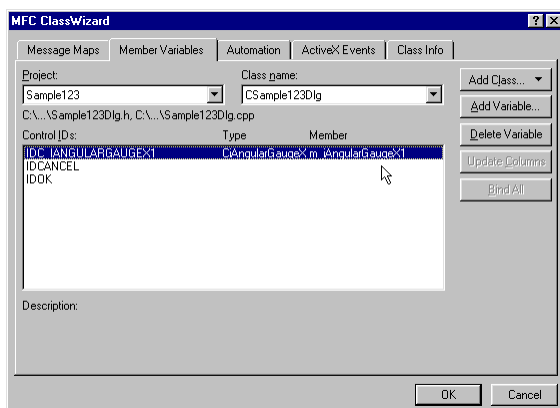
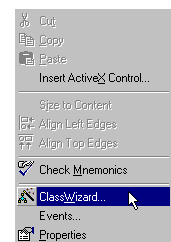
The built-in, custom property editors for our controls are comprised of all of the visible property tabs except for “General” and “All”. The General tab contains properties that belong to the container, and the All tab displays all properties (both control and container) in a single-column format.

Generating Event Code

To create event code for Iocomp ActiveX components, you will need to use the Visual C++ Class Wizard to create member variables and message maps. After adding a component to a form, right-click on the form and select “ClassWizard...”

You will need to create a member variable for each control on the form that you wish to reference from your C++ code. Click on the “Member Variables” tab, and then assign a unique name to every control on the form that you wish to have access to.

For this example, assign the member variable “m_iAngularGaugeX1” to



the Angular Gauge control by highlighting the `IDC_ANGULARGAUGE1` control, clicking on the Add Variable button and then assigning the member variable name “m_iAngularGaugeX1”.

To handle events of our ActiveX controls, you will need to map member functions from the list of available Window Messages(events) for each control.

To do this go to the Message Map tab in the ClassWizard, highlight the control (under Object

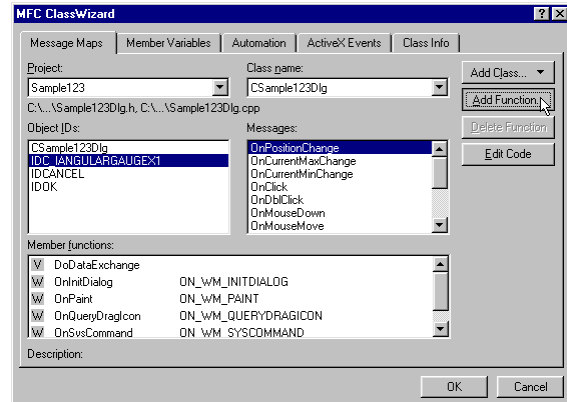
IDs), highlight the message for the control you wish to map, and then click on the “Add Function” button.

For this example, highlight the Angular Gauge Object ID select the “OnPositionChange” Window Message (event), and then click on Add Function. This will assign a function in your source code file to the “OnPositionChange” event window message that is generated by the Angular Gauge Control.

To edit code for this event, highlight the new member function and then click on “Edit Code”

Basic Programming Usage

You can read/write properties and execute functions of ActiveX controls via the member variable that you assigned in the Class Wizard (we assigned “m_iAngularGaugeX1”). An example is shown below...



```
void CISample123Dlg::OnOk()
{
    m_iAngularGaugeX1.SetArcRadius(100);
    m_iAngularGaugeX1.SetHubColor(0xFF00);
    m_iAngularGaugeX1.SetPointerColor(100);
    m_iAngularGaugeX1.SetPosition(TRUE);
}
```

Member Variable

Method Name

Value

Accessing Help Files

By default, our installer does not automatically integrate our help system with Visual C++ as Visual C++ does not provide context sensitive help for ActiveX controls. You can manually link our help files by using Microsoft’s Extension Help feature. You can find information on how to complete this integration by selecting “Use Extension Help” from the Help menu and then opening the help Contents by selecting “Contents” from the help menu.

An easier way to access our help files from Visual C++ would be to create a shortcut to our help files onto your Windows desktop and/or favorite shortcut bar.

Distributing Iocomp ActiveX Component Files

Dependencies

Iocomp ActiveX components have no external dependencies. The only requirements are that the controls run on an Intel-compatible computer system running 32-bit Windows such as Microsoft Windows 95/98/ME/NT/2000.

Registering ActiveX Controls

To successfully distribute our ActiveX components, you only need to copy and register on the destination computer OCX files for those components that you program uses. You can follow one of the following methods to distribute our components.

WARNING!: under our license agreement, you are not allowed to distribute the LIC (license) files that are associated with our ActiveX components to your end user's computers. Also, there is generally no need to distribute the associated TLB files. Just distribute the OCX files. Your development environment will embed the licensing information into your program

Manual Registration

This method involves a manual installation of your compiled software and our ActiveX components. This is generally used in situations where you are only distributing your application to a few number of computers.

1. Copy the OCX files that your program requires (Example: copy the "iStripChartXControl.ocx" and "isAnalogLibrary.ocx" files if your program uses our Strip Chart and Analog Gauge components) to the target computer's system directory. This is usually "C:\WINDOWS\SYSTEM" for Windows 95/98 and "C:\WINNT\SYSTEM32" for Windows NT/2000 systems.
2. Open up a command or DOS prompt and execute the following command in the system/system32 directory where you placed the OCX files. You can also use the START/RUN command...

Windows 95/98

Component	Command Line
Analog (isAnalogLibrary.ocx)	regsvr32 isAnalogLibrary.ocx
Digital (isDigitalLibrary.ocx)	regsvr32 isDigitalLibrary.ocx
Strip Chart (iStripChartXControl.ocx)	regsvr32 iStripChartXControl.ocx
Professional (iProfessionalLibrary.ocx)	regsvr32 iProfessionalLibrary.ocx
Plot (iPlotLibrary.ocx)	regsvr32 iPlotLibrary.ocx
Run Command	
regsvr32 c:\windows\system\isanalogLibrary.ocx	
regsvr32 c:\windows\system\isDigitalLibrary.ocx	
regsvr32 c:\windows\system\iStripChartXControl.ocx	
regsvr32 c:\windows\system\iProfessionalLibrary.ocx	
regsvr32 c:\windows\system\iPlotLibrary.ocx	

Windows NT/2000

Component	Command Line
Analog (isAnalogLibrary.ocx)	regsvr32 isAnalogLibrary.ocx
Digital (isDigitalLibrary.ocx)	regsvr32 isDigitalLibrary.ocx
Strip Chart (iStripChartXControl.ocx)	regsvr32 iStripChartXControl.ocx
Professional (iProfessionalLibrary.ocx)	regsvr32 iProfessionalLibrary.ocx
Plot (iPlotLibrary.ocx)	regsvr32 iPlotLibrary.ocx
Run Command	
regsvr32 c:\winnt\system32\isalogLibrary.ocx	
regsvr32 c:\winnt\system32\isDigitalLibrary.ocx	
regsvr32 c:\winnt\system32\iStripChartXControl.ocx	
regsvr32 c:\winnt\system32\iProfessionalLibrary.ocx	
regsvr32 c:\winnt\system32\iPlotLibrary.ocx	

You can also download a sample batch file that will do the registrations for you on any 32-bit Windows system from our website. Refer to the ActiveX FAQ #ACXFAQ001.

3. Copy your compiled program to a directory of your choice and create shortcuts for your application as needed.
4. Other ActiveX controls that you may need from other manufacturers can be registered in the same way. However, they may have dependencies on other system file that you will have to determine by reviewing the ActiveX component's documentation or by contacting the manufacturer. Copying required DLLs to the system directory usually satisfies these dependencies.

Installer Registration

This method is the preferred option if you are planning on distributing your application to many computers or if you will be having your end users install your software on their own.

Most installation programs such as InstallShield, WISE Installer, Microsoft SMS Installer, etc. can automatically register ActiveX controls for you. Refer to the installation software manufacturer's manual and help files for instructions on automatically registering ActiveX controls on your target computers. Iocomp uses the InstallShield installer to initially register your development ActiveX controls on your computer. Many corporations already have licenses for Microsoft SMS Installer, so that is generally the installer of choice for internal software distributions.

Distribution/Licensing Issues

Please refer to the license agreement that came with your software for official information about distribution.

Below, we will attempt to answer some of your questions in a question and answer format.

If I compile my program and distribute your OCX files to my customers, do I have to pay royalties?

No; if you only distribute the OCX file and don't allow the user to develop with the controls, then there are no royalty fees.

If I compile my program and distribute your OCX file along with your LIC files, do I have to pay royalties?

Yes; you are not allowed to distribute the LIC files without entering into a royalty agreement with Iocomp. The license files would enable your end users to develop with our controls. There are only very rare circumstances where this is necessary therefore contact Iocomp Software if you need assistance doing this.

But I have to distribute the LIC files since I am creating components dynamically at runtime. Do I have to pay royalties?

Maybe; as you don't need to distribute the LIC files in this situation. You may have to embed some of the LIC file information in your program, but you won't need to distribute the LIC files to your end user's system. Please refer to the ActiveX FAQ #ACXFAQ004 on our website for more information. If you allow your end users to develop (i.e. make changes to or add controls to a running program similar to what HP VEE or National Instruments LabView does) with our controls, then royalty fees may apply. Please contact Iocomp Support and we can help you with this situation.

If I create a composite component (i.e. create a component using some or all of Iocomp's components), and plan on selling it, do I have to pay royalties?

Yes; by creating a composite component, you are allowing your end users to develop with our controls. This would require a royalty agreement with us.

If I create a composite component only for my company's internal use, do I have to pay royalties?

Maybe; if you have purchased a license to our controls for all of the developers that will be using the composite control at your company (i.e. you have 5 developers and you have purchased 5 licenses to our components), then you don't have to pay royalties. (Note: the total number of developers using our components and/or your composite components may not exceed the number of licenses purchased). If you plan on letting people outside your company use the composite control, then you are required to pay royalties.

Chapter 4 — Getting Started (VCL Version)

Borland Delphi & C++ Builder

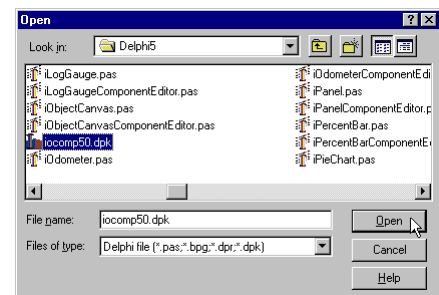
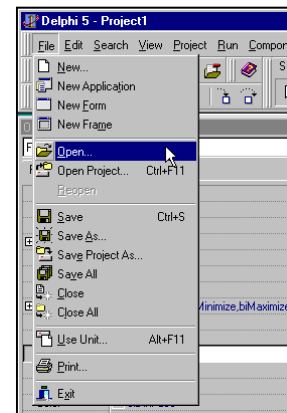
Compiling and Installing Iocomp Components

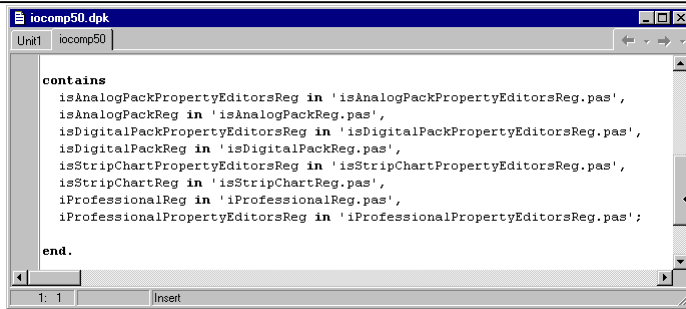
Please refer to the installation notes that came with your product for additional information on compiling and installing Iocomp VCL components into Borland Delphi and Borland C++ Builder.

Iocomp VCL components are distributed in source code form allowing you to make modifications to our source code for your own purposes. To install and use our components, you will need to open, compile, and install our components into your development environment. This was done to make it easier to compile our components into your application without having to use packages, and to make changes to the code if you so desire. Please follow the instructions below according to the version of Delphi that you are using (or consult the release notes installed in the same directory as your component files for Delphi or C++ Builder compilers)

Delphi 4-5 and Higher

1. Open Delphi 4 or Delphi 5.
2. From the Main Menu, select File->Open
3. From the Open dialog, browse to "c:\program files\iocomp\components\delphi4", "c:\program files\iocomp\components\delphi5", or to the installed directory if different than the default directory and corresponding to the version of Delphi you are using (i.e Delphi4 folder is Delphi 4.0, Delphi5 folder is Delphi 5.0, etc.).
4. From the Open dialog, select and open iocomp40.dpk or iocomp50.dpk depending on which version of Delphi you are using.
5. The Package Project Manager dialog for iocomp40.dpk/iocomp50.dpk should now be open. The project is set up for both the Professional Pack and Plot Pack products. If you did not purchase both the Professional Pack and Plot Pack products then this file will not need to be modified. as follows





6. Instrument Pack Only

- Remove iPlotPackPropertyEditorsReg.pas
- Remove iPlotPackReg.dcr
- Remove iPlotPackReg.pas
- Remove iProfessionalPropertyEditorsReg.pas
- Remove iProfessionalReg.dcr
- Remove iProfessionalReg.pas

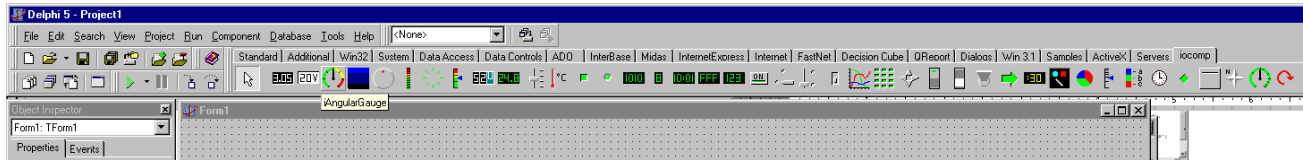
Professional Pack Only

- Remove iPlotPackPropertyEditorsReg.pas
- Remove iPlotPackReg.dcr
- Remove iPlotPackReg.pas

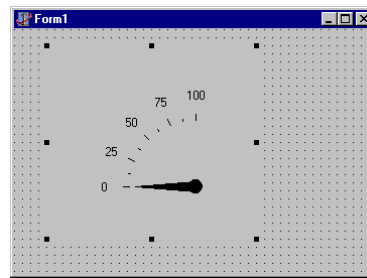
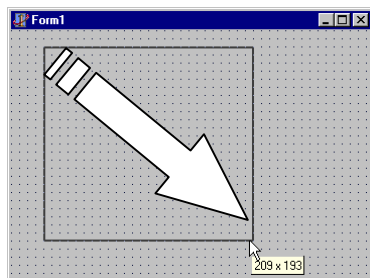
Plot Pack Only

- Remove iInstrumentPropertyEditorsReg.pas
- Remove iInstrumentReg.dcr
- Remove iInstrumentReg.pas
- Remove iProfessionalPropertyEditorsReg.pas
- Remove iProfessionalReg.dcr
- Remove iProfessionalReg.pas

- Click OK on the Information Dialog showing the installed components.
- Close the iocomp40.dpk/iocomp50.dpk Project Manager and close the project, saving changes if prompted.
- You are now ready to start using Iocomp Instrumentation Components. You should see a new tab “Iocomp” with all of your installed components.



To place controls on a form, select the “Iocomp” tab from the control pallet and then click on the component desired. Then, drag and draw-out (i.e. click your mouse button onto the form, and drag the mouse while holding the mouse button down until you have drawn the control to the size you require) the component onto the form. You can also double-click on the component glyph to place the component on the form as well using the default size.



Accessing Help Files

The help files that come with Iocomp components are automatically integrated into the help file system that comes with Borland Delphi or C++ Builder. To access help for a

component or component property/method, press **F1** anytime while in the Form Designer, Object Inspector, or Code Editor windows.

Distributing Iocomp VCL Components

VCL components are generally compiled into your distributed executable program. This is the distribution method recommended by Iocomp Software.

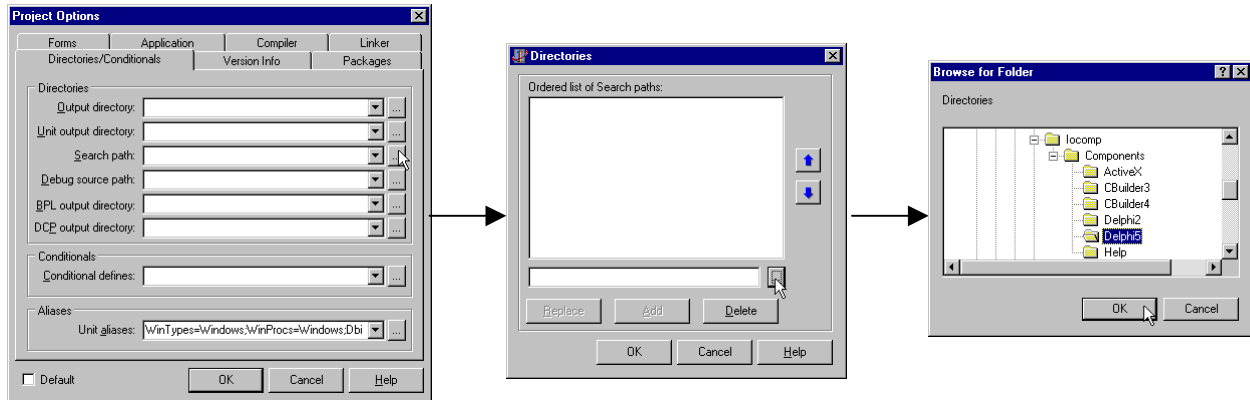
If you wish, Borland Delphi and C++ Builder support saving our components as separate packages for distribution independent of your program executable. For more information on using and distributing our components using packages, please consult the Borland Delphi or C++ Builder documentation.

Setting Default Search/Include Path

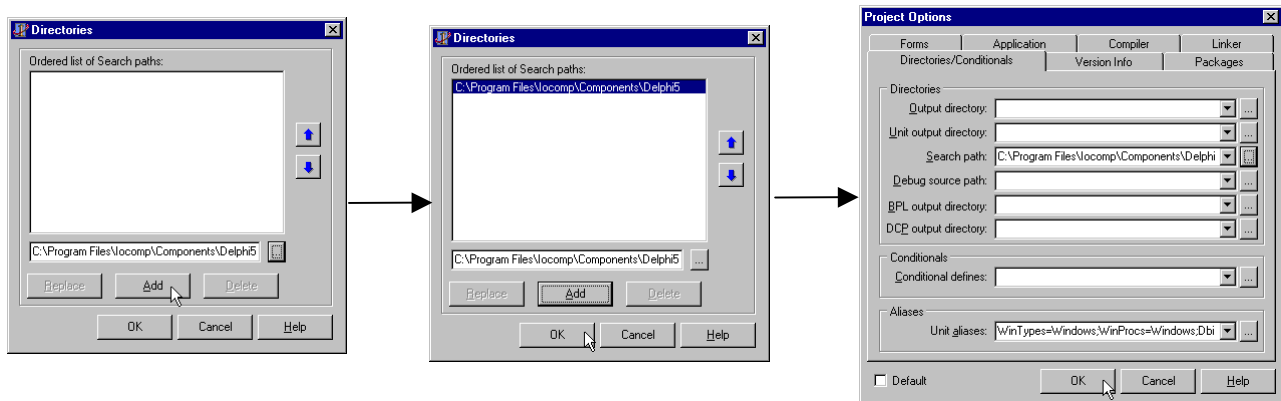
For each new program that you develop in Delphi or C++ builder, you will need to set the project's Search Path (Delphi) or Include Path and Library Path (C++ Builder) to the location where you installed your copy of Iocomp Components. This is important so that the Delphi and C++ Builder compilers know where to find your installation of Iocomp Components. You can setup the default search/include & library path to include Iocomp

Components as follows (note: graphics are for Borland Delphi 5, your dialogs may be different or may include additional information)...

1. Select “Options...” from the Projects menu.
2. Click on the “Directories/Conditionals tab and click on the ellipse button next to “Search Path” (Delphi) or “Include Path” (C++ Builder)



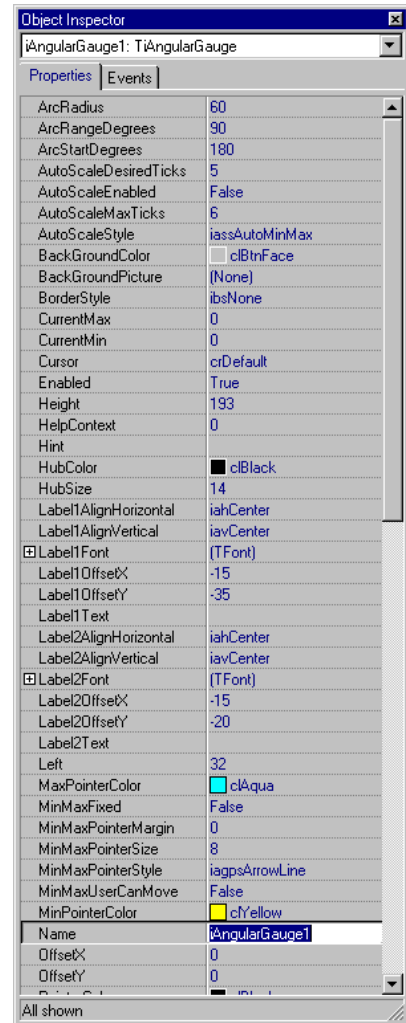
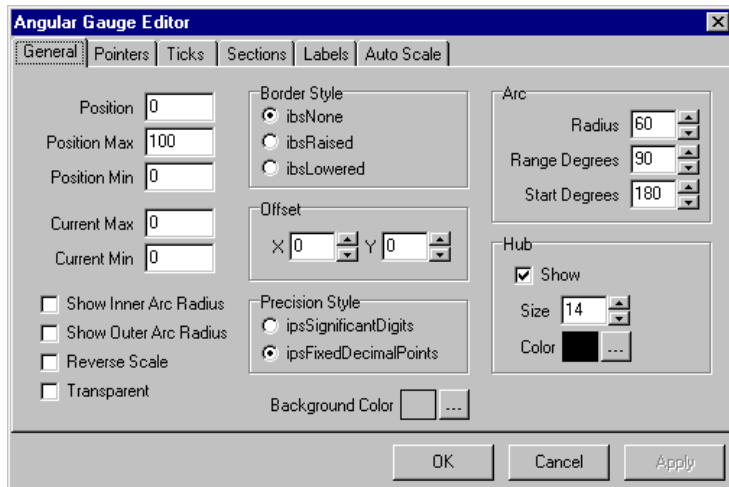
3. Click on the ellipse button in the Directories dialog and select the location where your Iocomp components are stored (Delphi 5: select the Delphi5 folder. Delphi 4: select the Delphi4 folder. C++ Builder 4: select the Cbuilder4 folder. Etc.)



4. Click on the Add button to add this path to the list of directories that are search during the compilation process.
5. Select the OK button.
6. The Project Options dialog should reappear. Check the “Default” checkbox if you wish these project settings to be the default for all new projects created from now on.
7. If using C++ Builder, repeat the same steps for the Library Search Path.
8. Click on OK to accept all changes.

Modifying Control Properties

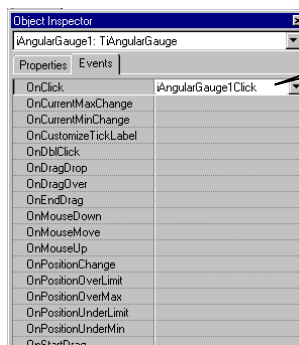
Properties of controls can be modified using the component's built-in property editors by right-clicking on any of Iocomp Components that has been placed on a form and selecting "Edit". You can also access component properties and events from the "Object Inspector".



Generating Event Code

Events are blocks of code that are triggered to execute by changes in the control, usually by a user clicking on the control or pressing a key if the control has the window focus.

To modify or link program code to events of a control, select the "Events" tab using the Object Inspector in the IDE. Double-click on an event to have Delphi or C++ Builder automatically generate the code skeleton for the event selected.

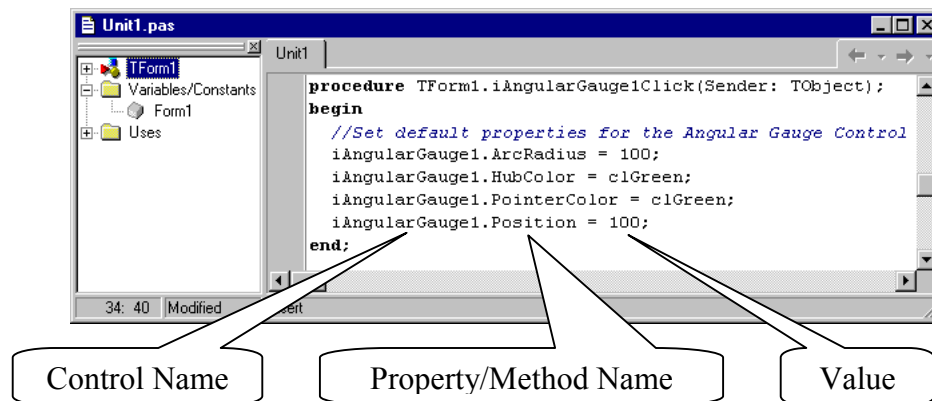


Double-Click Here

Borland Delphi

Basic Programming Usage

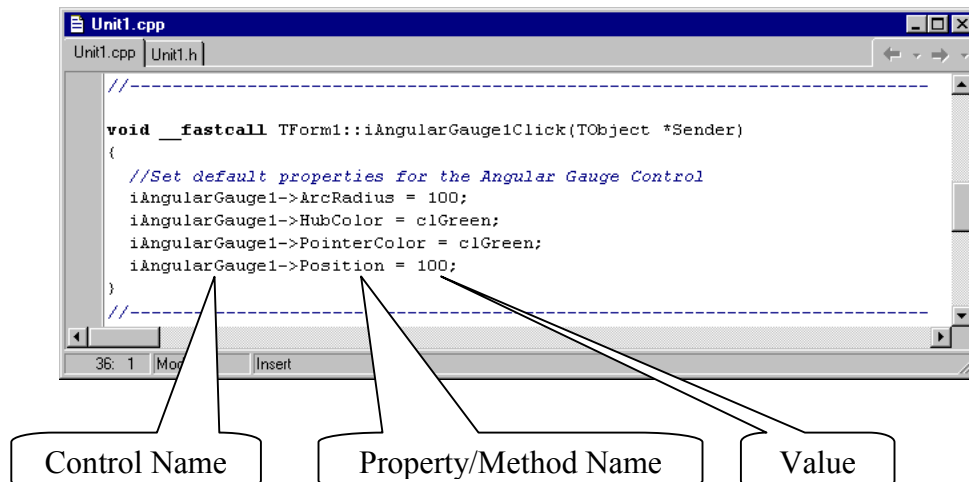
You can set properties and execute methods of the control at run-time by editing the program code in the code editor window. The following example shows how to set some properties of the Angular Gauge control...



Borland C++ Builder

Basic Programming Usage

You can set properties and execute methods of the control at run-time by editing the program code in the code editor window. The following example shows how to set some properties of the Angular Gauge control...



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Chapter 5 — Obtaining Additional Assistance

Support Options

Source Code Examples

Many example programs, including source code for many popular development environments, are available for download from our website and on select CDs. Just open your browser and navigate to...

<http://www.iocomp.com/support/examples>

FAQ

You may find the answer to your question in our listing of Frequently Asked Questions (or FAQ) listed on our website. This section contains questions and answers to questions that we frequently receive through our technical support email and telephone conversations with customers. Open your web browser and navigate to...

<http://www.iocomp.com/support/faq>

Other Internet Support

You can always find listings of our current support options on our website at...

<http://www.iocomp.com/support>

Product Updates

Bug fixes and minor feature enhancements are always free to registered customers. You can always find a listing of our current downloads available, including special libraries here...

<http://www.iocomp.com/download>

Email Support

Drop us an email with a question, concern, or suggestion anytime. You may also include attachments with code samples if you need assistance with our controls. Send all support emails to...

support@iocomp.com

Telephone

Please feel free to give us a telephone call if you have any questions, need any assistance, or need technical support with our component products.

(510) 979-1340 7am-6pm PST (GMT -8)

Glossary

ActiveX: Microsoft stripped-down implementation of OLE. Supported component architecture used in many modern 32-bit Windows-based development environments

Code Editor: Window where you can edit source code for your program

Component: An ActiveX or VCL program that can be added to and referenced by your application as if it was part of your program. Components can be visual (displayed on a form/dialog) or non-visual (not displayed on a form/dialog).

Container: Form or dialog.

Container Property: property that is managed by the container, and not the control.

Control: See component.

Control Pallet: A listing of all components available for use by your program. Components are usually represented by their small icon graphical representations.

Design-Time: editing and working with a program at the time of development. The program does not execute at this point, but is in current development.

Event: a notification that occurs in a response to an action from the user or change in state of a component. Events are generally “fired” when a user clicks on a component, but can be from a long list of actions initiated by the use, the operating system, or some other program.

FAQ: Frequently Asked Question. A document that attempts to answer questions often asked by new users.

IDE: Integrated Development Environment.

Method: A routine of a component or object that can be executed to perform some task.

Object Inspector: The dialog that lists the properties and events of an object in Borland Delphi or Borland C++ Builder.

Property: Attributes of a component or class that can be set, stored, and retrieved through programming code. Property editors built into our components or into the development environment can access and modify properties.

Run-Time: The point at which the program is executing instructions.

Property Editor: A dialog or configurable listing of a control’s properties. Our built-in property editors organize and list all available properties that a control possesses and can be set at design-time. The built-in property editors do not show properties that are provided by the container.











































Property Window: a dialog with a column listing of properties for a control (both container properties and control properties)





















































VCL: Visual Component Library. Component library architecture for Borland software development environments

CLX: Cross-Platform Component Library. Component library architecture for Borland software development environments running under Windows and Linux (GNU Linux)

Appendix A – ActiveX Component Libraries

All of our ActiveX components are broken-up into individual collections of components (Analog Pack, Digital Pack, Strip Chart, Professional Pack, and Plot Pack). The following table describes which ActiveX control (OCX) libraries correspond with particular, individual controls. Our VCL components are not broken up into individual libraries.

		Analog Pack	Digital Pack	Strip Chart	Professional Pack	Plot Pack
	Strip Chart					
	Analog Output					
	Analog Display					
	Knob					
	Slider					
	Seven Segment Analog					
	LED Bar					
	LED Spiral					
	Linear Gauge					
	Thermometer					
	Odometer					
	Angular Gauge					
	Gradient Control					
	Label					
	Switch Slider					
	Switch Toggle					
	Switch Rotary					
	Seven Segment Integer					
	Seven Segment Binary					
	Seven Segment Hexadecimal					
	Seven Segment Clock					
	Seven Segment Character					
	LED Switch					
	LED Rectangle					

		Analog Pack	Digital Pack	Strip Chart	Professional Pack	Plot Pack
	LED Round					
	Switch Rocker					
	Switch Rocker 3-way					
	Switch Quad					
	Switch Lever					
	Seven Segment SMPTE					
	LED Diamond					
	LED Arrow					
	LED Matrix					
	Pie Chart					
	Percent Bar					
	Linear Log Gauge					
	Angular Log Gauge					
	Object Canvas					
	Compass					
	Panel					
	Timers					
	Bitmap Rotation					
	Sliding Scale					
	Sliding Compass					
	Spectrum Display					
	Phone Pad					
	Dual Compass					
	Thread Timers					
	Plot					
	XYPlot					

Library Name	OCX Filename
Analog Library	isAnalogLibrary.ocx
Digital Library	isDigitalLibrary.ocx
Strip Chart Library	iStripChartXControl.ocx
Professional Pack Library	iProfessionalLibrary.ocx
Plot Pack Library	iPlotLibrary.ocx

Appendix B – Color Codes and Constants

The following table lists commonly used colors, their hexadecimal values, and selected constants from popular development environments. For example, to specify “00FF99CC”, format as...

Delphi: \$00FF99CC
Visual Basic: &H00FF99CC&
Visual C++/C++ Builder: 0x00FF99CC

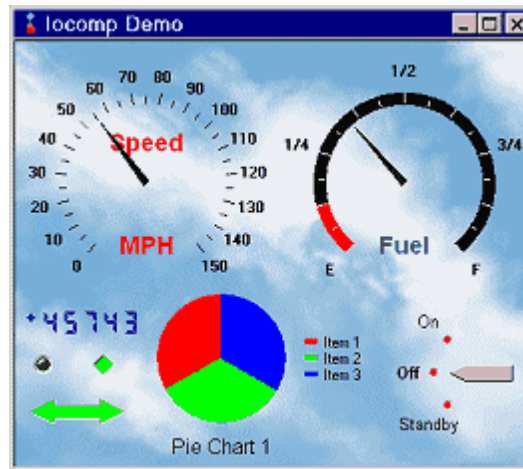
System Pallet	Hex Value	Visual Basic	Delphi/C++ Builder	Color
Black	00000000	vbBlack	clBlack	
Dark Red	00000080		clMaroon	
Red	000000FF	vbRed	clRed	
Pink	00FF00FF	vbMagenta	clFuchsia	
Rose	00CC99FF			
Brown	00003399			
Orange	000066FF			
Light Orange	000099FF			
Gold	0000CCFF			
Tan	0099CCFF			
Olive Green	00003333			
Dark Yellow	00008080		clOlive	
Lime	0000CC99			
Yellow	0000FFFF	vbYellow	clYellow	
Light Yellow	0099FFFF			
Dark Green	00003300			
Green	00008000		clGreen	
Sea Green	00669933			
Bright Green	0000FF00	vbGreen	clLime	
Light Green	00CCFFCC			
Dark Teal	00663300			
Teal	00808000		clTeal	
Aqua	00CCCC33			
Turquoise	00FFFF00	vbCyan	clAqua	
Light Turquoise	00FFFFCC			
Dark Blue	00800000		clNavy	
Blue	00FF0000	vbBlue	clBlue	
Light Blue	00FF6633			
Sky Blue	00FFCC00			
Pale Blue	00FFCC99			
Indigo	00993333			
Blue-Grey	00996666			
Violet	00800080		clPurple	
Plum	00663399			
Lavender	00FF99CC			
Grey 80%	00333333			
Grey 50%	00808080		clGray	
Grey 40%	00666666			
Grey 25%	00C0C0C0		clSilver	
White	00FFFFFF	vbWhite	clWhite	

Appendix C – Transparency

Feature: Transparency

Q: What are transparent components?

A: A picture's worth a thousand words...



Q: What can the Transparency feature do for me?

A: The Transparency feature allows you to place our components on top of bitmaps, other static controls, or a form while allowing images or colored backgrounds to "shine" through our components. See example above.

Q: How do I use the Transparency feature?

A: Simply set the Transparency property to TRUE to enable.

(Tip: only set the Transparency property at Run-Time, such as in your Form Load handler)

Q: How does the Transparency feature work?

A: The Transparent features works by capturing an image of the area beneath the component, and using that image to draw the control on the form. The effect is that whatever is behind the control shows through.

Q: When should the Transparent feature NOT BE USED?

A: The Transparent features does not work if the background image or control behind the Transparent Control is dynamically changing. The end result of using a dynamically changing background would be an ugly flicker effect. This is a problem with the Windows Operating system and Windows API drawing routines, and cannot be fixed. Future versions of Windows

2000 will support more advanced Transparency features, and we will include these advanced features at a later date. [See [Example #3001](#) for a demonstration]

Furthermore, turning the Transparent feature on at Design-Time is not recommended. Many development environments do not adequately support the Transparency feature, and the result would be blank or invisible components on your Design-Time forms. This is a problem with the Programming Environment and cannot be fixed. The workaround is to set the Transparent Property to TRUE ONLY AT RUN-TIME, such as in your form load handler. This is not an issue at Run-Time with your compiled or interpreter-based application.

Q: What Iocomp products include support for Transparency?

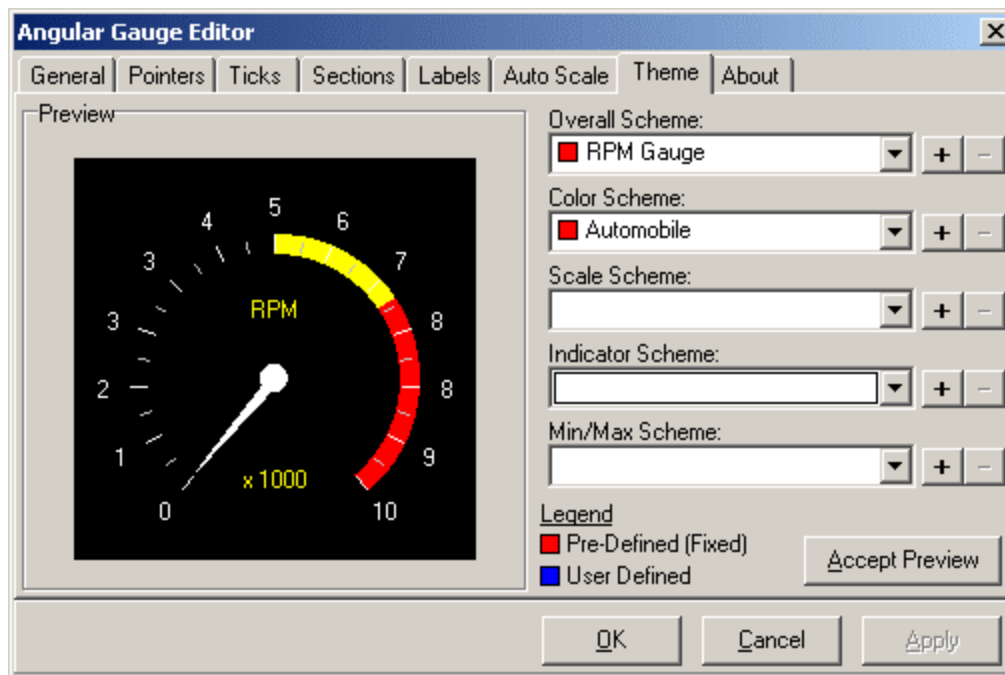
A: Almost all of our components support Transparency except for the Plot Pack Components, all of our non-visual components such as the Timers and Thread Timers, and components that draw over the entire area of the component where the image beneath wouldn't shine through anyways such as the LED Rectangle.

Appendix D – Themes

Feature: Themes

Q: What are Iocomp Component Themes?

A: Iocomp Component Themes are a new and easy way to setup our components without having to configure individual properties...



Q: What can Themes do for me?

A: Themes give you a head start with creating professional looking component designs with very little effort. They also teach you about the capabilities of each component, showing the many possibilities that are available.

Q: How do I use Themes?

A: It's easy... Simply open the Property Editor or Component Editor for one of our components, select the Theme Tab, change some of the combo boxes (pull down boxes), and watch the Preview on the left to see what combinations are available! When you are happy with the preview, simply click on the ACCEPT PREVIEW button to transfer the new properties to the property editor. You can then go to the other property editor tabs to "tweak" individual properties to you liking. When done, just hit the OK button!

Q: How do Themes Work?

A: Themes work by saving certain property "presets" that we have designed to help in setting up your components. When you select, for example, the "RPM Gauge" Overall Scheme, the Themes configure the properties of the component to look like a RPM Gauge. When you select the "Automobile" Color Scheme, the Themes configure the appropriate color properties of the component to look like an automobile display. When you select a "Large 180° Bottom Scale", the Theme Panel configures appropriate properties to create a 180° scale aligned to the bottom of the control.

Tip: the "Overall Scheme" always configures all properties of the control to achieve a certain, pre-designed look for the component. The other "Schemes" configure only a subset of the properties to achieve a certain design.

Q: What Iocomp Products Include Themes?

A: Currently our [Iocomp Instrumentation Pack 2.0](#) and [Iocomp Professional Pack 2.0](#) products include support for Themes. Our Plot Pack 2.0 does not currently include support for Themes, but will include Setup Wizards in the near future to make it even easier to setup our Plot Pack components.

Q: How do I create my own Themes?

A: It's easy...You can create and save your own themes for use later in other projects, or you can trade your themes with other users so that you can make it easy to setup our components in your programming workgroup. Simply setup a component the way that you would like, open up the Theme panel, and click on the "+" button next to the Scheme you wish to save. This will save the properties of the current component that you are editing. **Tip:** to save all properties, save your theme next to the "Overall Scheme". This scheme contains all of the properties that are used with the component. Other themes contain only some information, such as scale or color properties. To trade your themes with others, simply copy the "iComponentNameUser.xml" file located in your Iocomp Components installation directory (Usually [c:\program files\iocomp\components\themes](#)) to another computer.

Q: How do I use themes in my compiled application if I am using Run-Time Property Editors?

A: You can create your own themes, or use our themes in your compiled application if you are using Run-Time Property Editors. Please note that doing this requires a good understanding of the Microsoft Windows Registry and Microsoft Windows User Profiles. Please read important note below about future update. The steps to achieve this are as follows...

System-Wide Themes:

These are themes settings that apply to all users on the machine, no matter which user profile is used.

- Copy The Theme files (they are initially installed in <c:\program files\iocomp\components\themes>, but you can copy them to any directory on your user's computer) to a directory of your choice.
- Set the following registry keys to point to this directory. You can look in your local Windows registry for a sample...

Key: HKEY_LOCAL_MACHINE\SOFTWARE\Iocomp\Themes

String Value: "USER DEFINED THEME PATH" = "C:\Your Directory"

String Value: "IOCOMP DEFINED THEME PATH" = "C:\Your Directory"

- You can have different paths for Iocomp Defined Themes or for User Defined Themes if you wish. The User Defined Theme Path will need to be write-enabled for users if you allow them to save user themes.

User-Specific Themes:

These are themes settings that apply to a particular user.

- Copy The Theme files (they are initially installed in <c:\program files\iocomp\components\themes>, but you can copy them to any directory on your user's computer) to a directory of your choice.
- Set the following registry keys to point to this directory. You can look in your local Windows registry for a sample...

Key: HKEY_CURRENT_USER\SOFTWARE\Iocomp\Themes

String Value: "USER DEFINED THEME PATH" = "C:\Your Directory"

String Value: "IOCOMP DEFINED THEME PATH" = "C:\Your Directory"

- Note that if the above keys exist for the current user, those settings will override the settings located in HKEY_LOCAL_MACHINE.
- You can have different paths for Iocomp Defined Themes or for User Defined Themes if you wish. The User Defined Theme Path will need to be write-enabled for users if you allow them to save user themes.

Creating Your Own Preset Themes:

To create your own preset themes, you will need to do the following...

- Create user themes on your system to your liking. When you save User themes on your development system, the file created is named iComponentNameUser.xml (for example, the Angular Gauge filename would be iAngularGaugeUser.xml).
- Copy the user theme files (iComponentNameUser.xml) files to the location specified in the registry settings discussed above. Remove the word "User" from the file name for each component. This will turn the theme file into

Important Update Issues:

When we release service packs to our software, it is possible that the format of the Theme Files may change. If you update to a newer release of our components, please be advised that you may need to modify or re-create your theme files to be compatible with future versions.

All older User Created Theme files are forwards compatible with future versions (i.e. if an older theme file is used with a newer component, it will create the same desired effect, but themes created with newer versions won't necessarily work with older versions of our components).

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