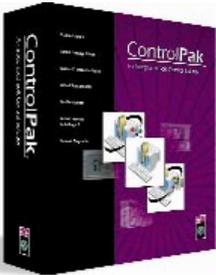


ControlPak

Makes Soft Control Simple, Secure

Andrew N. Sailor, Product Marketing Manager, Logic Business Unit



ControlPak™ is Rockwell Software's newest SoftAutomation™ solution. ControlPak provides a complete soft control solution for all your PC-based control system development and run-time needs.

ControlPak is an integrated development and run-time environment that brings the power of the Microsoft Windows NT® 4.0 operating system, secure networking, and ActiveX® and Visual Basic Application (VBA) technology to traditional PLC-based applications. ControlPak provides you with state-of-the-art tools to build the most advanced PC-based control systems.



SoftLogix 5 Simplifies PC-Based Control
At the heart of ControlPak is the Allen-Bradley SoftLogix 5™ controller.

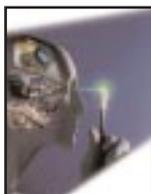
The SoftLogix 5 controller is the newest member of the Allen-Bradley PLC-5® family, but it's not your father's PLC-5! The SoftLogix 5 controller is upwardly compatible with I/O, networks, and application software developed for firmware-based PLC-5 family members. That's a great thing for you if you're interested in moving up to a SoftLogix 5 system. You can take your existing PLC-5 application code and simply change the processor type to SoftLogix 5, download it to the SoftLogix 5-equipped Windows NT® computer using RSLogix™, and away you go! It is as simple as that. All the work and training you have invested in learning the PLC-5 architecture is preserved and enhanced. How is it

enhanced? How can you take advantage of the Windows NT operating system? Well, that's where all the tools in ControlPak come into play.

Open I/O, and Networks with RSNetworkx

The SoftLogix 5 controller now has native ControlNet™ and DeviceNet™ I/O systems support. This gives you the benefit of a greater selection of flexible I/O devices and superior I/O update speed. ControlPak's RSNetworkx™ gives you a unified I/O network diagnostic and configuration tool to make the challenging task of building and maintaining open I/O networks a manageable process.

With the ControlPak RSNetworkx, you can now connect these two great open networks to the SoftLogix 5 controller! With ControlNet, you can install and configure a 1784-KTCS to connect to your ControlNet I/O. For DeviceNet I/O, you can even install up to four 1784-PCIDS cards for four DeviceNet connections.



Delivering the Speed You Need with 100Mb Ethernet Support

If you want real networking speed, you now have a choice. You can network with

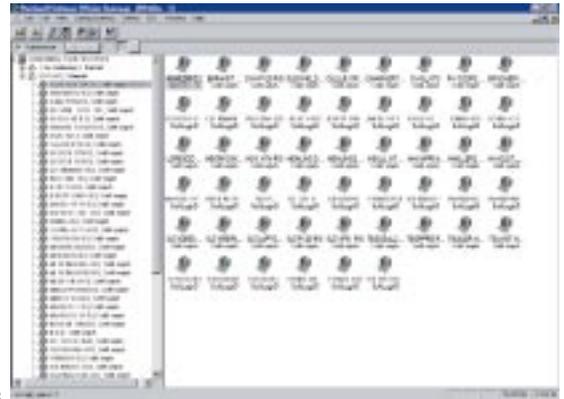
Ethernet™ PLC-5 family members using a 10-megabit Ethernet card on a Windows NT computer with a SoftLogix 5 controller installed. Or, if you are creating a new network with just SoftLogix 5 software, you can use the fastest TCP/IP technology you can get your hands on. Imagine

communicating with an RSView™ workstation and SoftLogix 5 controllers using 100-megabit Ethernet. You can do all this with ControlPak.

Legacy Networks Combined with Open Control

Remote I/O

With RSNetworkx with the ControlPak RSLogix I/O configuration utility, you can maintain your existing remote I/O and DH+ networking investment while using the speed and flexibility of a SoftLogix 5 system.



The I/O configuration utility enables you to properly document and symbolically reference your I/O devices as you create your control code. Install combinations of 1784-PKTXD, 1784-PKTX, 1784-PKTS, 1784-KTXD, 1784-KTX, and 1784-KTS on your PC, plug in your remote I/O network, and you're ready to go. As always, your remote I/O network can include 1771 I/O™, Flex I/O, PanelViews, DataLiners, and other devices.

Allen-Bradley Spares

Connect to Local I/O with Plug and Play

Our customers have been asking for a higher degree of compatibility between SLC™ and PLC-5 processors. With ControlPak, you can now create a SoftLogix 5 system with native 1746 I/O. You get the performance of high speed local I/O with the low cost of an SLC controller.

The new 1746-PCIS/1746-PCIL interface card and the ControlPak RSLogix SLC I/O configuration utility makes setting up a PC-based control system a simple task. You put the card in the computer chassis and power up the system. Plug and Play technology takes over and sets up the card for you. Next, you bring up the SoftLogix 5 configuration manager and add the driver. If you have I/O cards in the system, you can click on the Auto Configuration button and the I/O cards are mapped for you. It is as simple as that!

Open up with Data Highway + ControlPak SoftLogix 5 can use DH+™ just like its PLC-5 family members. This makes the integration of PC-based control into an installed base of PLC processors a reality. Install a combination of 1784-PKTXD, 1784-PKTX, 1784-KTXD, and 1784-KTX cards into your Windows NT computer and you're ready to write programs that make use of the power of the SoftLogix 5 engine.

Plenty of Room to Program
The SoftLogix 5 controller and all of these I/O systems can be programmed and documented within ControlPak's familiar RSLogix editing environment. RSLogix SL5™ is the most advanced ladder logic, IEC-compatible structured text, and SFC language editing tool on the market today. In ControlPak, we have made all these cool features available



in a cost-effective package just for soft control applications.

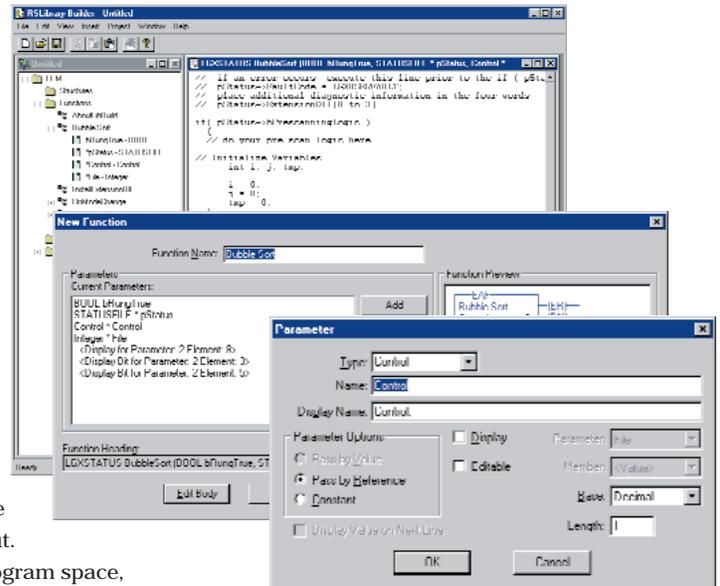
ControlPak RSLogix can read any program developed using 6200 Series, A.I. Series™, or WinLOGIC 5, and convert it to a SoftLogix 5 application with a click of the mouse. That's great for getting you started, but what else can you do?

Well first of all, you have more room to stretch out. With 8 megabytes of program space, 4096 program and data table files you have plenty of room to program! But that's not all! You can create your own user-defined data structures to consolidate memory. This makes creating and maintaining your code easier.

Custom "C" Instructions Library Extends Your Reach
Our customers have been asking for the ability to create their own instructions in the PLC-5 environment. Their reasons vary from wanting to encapsulate proprietary algorithms to needing to simplify their control code. This feature was difficult to provide in firmware-based PLC-5 processors, but not for the Windows NT-based ControlPak.

With the combination of SoftLogix 5, RSLogix SL5, and the new RSLibrary Builder™ software, you can create your own C-based instructions, compiled with Microsoft Visual C++®. This allows you to leverage the complete Win32 API of Windows NT™, as well as other third-party tools.

RSLibrary Builder allows you to create instructions compatible with both ladder logic and structured text. RSLibrary Builder displays the looks of each instruction as you specify its name, parameter field names, and data types. You can group instructions to give structure and organization to



your Logix Extension Modules (LEM). LEM instructions can be used while programming ladder logic or structured text programs. LEMs are in-process dynamic link libraries (DLLs) that execute in the same address space and priority as the SoftLogix 5 engine.

The SoftLogix 5 controller executes LEMs in these ways:

- ▶ as instructions
- ▶ on a once-per-scan basis
- ▶ as a background thread

SoftLogix software synchronizes with LEM libraries on initialization, startup, shutdown, mode change, and fault conditions.

Instructions or Sub Systems? You Choose.

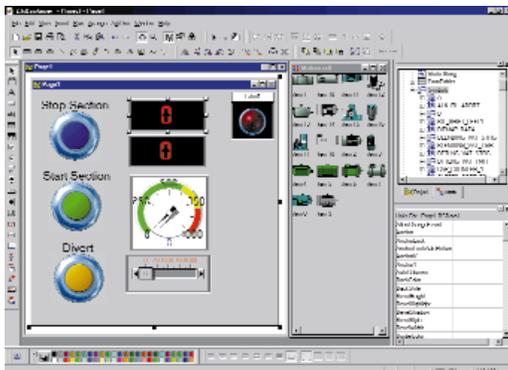
LEMs have complete access to SoftLogix 5 shared memory, event and Mutex objects, and can even be used to specify user-defined data structure types. In addition, LEMs can schedule and run the SoftLogix5 external user interrupts (EUI) program files. RSLibrary Builder adds a completely new dimension to how you conceptualize and develop your control applications.

So, what do you think of ControlPak so far? Is it just a "PLC-replacer"? No way! And we still have more!

Advancing the Mark with ActiveX and VBA

Rockwell Software has been on the defining edge of industrial software technology with our pioneering work in ActiveX® and VBA application extensions. When our software architects were dreaming up ControlPak, we thought it would be useful (and really cool) to have a soft control engine with an integral VBA development environment complete with its own ActiveX container. We had a chance to change the definition of a PLC controller by integrating higher level languages and ActiveX-based tools for diagnostics, configuration, and user interface. Thus ControlPak's CtrlContainer was born!

We embedded the RSSidewinderX™ interface into the development environment so you can configure user-interface screens for diagnostics and control with zero programming. If you need to access the incredibly rich programming environment of Microsoft VBA, it's also there for you! With the click of a button, you navigate directly to your VBA editor with full access to all the method, properties, and events that you want to code. No other soft control solution offers this much flexibility and power.



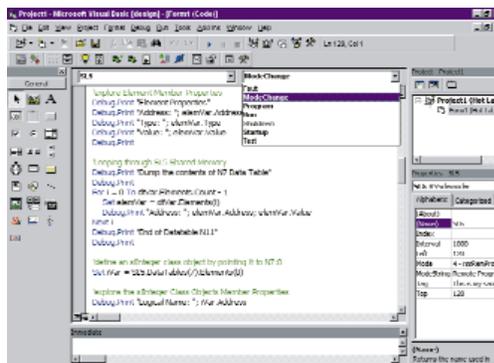
Running with a High Speed ActiveX-based Interface: RSSidewinderX

Interaction with the SoftLogix 5 engine does not stop with the creation of ActiveX-based interfaces and LEMs. You can create ControlPak

applications that interact with the SoftLogix 5 engine using CtrlContainer's VBA and the embedded RSSidewinderX ActiveX Tool. RSSidewinderX is an in-process COM server with an ActiveX interface that interacts with the SoftLogix 5 shared memory interface, kernel mode events, and end user interrupts (EUIs).

RSSidewinderX is appealing to developers because of the speed of shared memory and event interaction. RSSidewinderX can perform block read/write operations with the SoftLogix 5 engine, so with the speed and overhead of a single Mutex switch you can update or monitor up to 4096 words of SoftLogix 5 memory. It's the fastest way to communicate with an Allen-Bradley PLC-5 on this planet!

Applications using RSSidewinderX operate in a separate address space, thus leveraging Windows NT firewall



protection for safe program interaction. RSSidewinderX can be thought of as "middleware", handling the communications between processes and the real-time SoftLogix 5 engine.

Using VBA as a Common Ground Since RSSidewinderX is a COM object, it is by nature language-independent, so you can use VB, VBA, C++, and J++ to program your applications. For our customers, VBA seems to be the common ground for systems integration. ControlPak tailors the VBA environment to make it easy for our customers to develop software

for real-time control applications that need to be integrated with enterprise-wide systems.

Applications that use RSSidewinderX can coordinate their functions based on real-time knowledge of the SoftLogix 5 mode and memory state with RUN, PROGRAM, TEST, MODECHANGE, and DATA TABLE CHANGE event notification. Your application can even schedule the execution of SoftLogix 5 EUI program files.



Rockwell Software . . . SoftAutomation™ Working for You A soft control engine that defines state-of-the-art, intuitive and familiar language editors with simple and powerful I/O configuration tools, high-speed communications, VBA, and a well-stocked graphical toolbox.

All these great features make ControlPak a valuable tool for creating enterprise-enabled, PC-based, real-time control applications.

For More Information

For more information on ControlPak, visit the Rockwell Software Web site at www.softautomation.com or contact us via e-mail at controlpak@softautomation.com.

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