Paradigms

PARADIGM C++ PRO

Tap into the power and productivity of Paradigm C++ Professional. Take full advantage of robust embedded application development, powerful debugging tools, and full support for the tools you use every day to get the job done. With support for the most popular microprocessors, compilers, real-time operating systems, and source control systems, Paradigm C++ Professional meets the toughest demands of the embedded system developer.
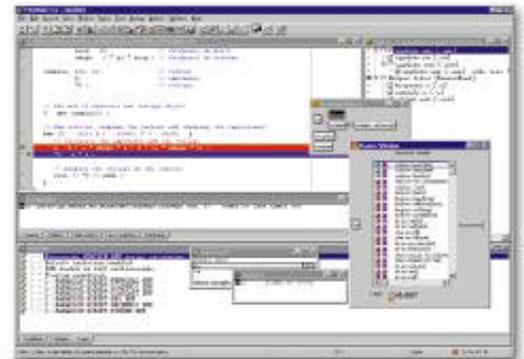
Special Edition: Product Introduction

Product Highlights

Paradigm C++ Professional is the most productive environment for creating real, extended, and protected mode embedded system applications for the x86 microprocessor family. As the acknowledged leader in x86 development tools, Paradigm is proud to establish a new level of productivity for the embedded system developer, without compromising flexibility, compatibility, performance, or control.

Maximize your productivity.

• Increase development speed and greatly simplify coding with complete tool integration. No need to switch from the debugger, editor, and make utility since all are integrated together in one simple to use interface.

• The Paradigm C++ Professional Editor allows full source code navigation without the need to compile the source code. Navigate your functions, classes, structures, enumerations, and include files with just a click of the mouse.

• With Visual Assist integrated into your Paradigm C++ Professional Editor, code writing has never been simpler. Visual Assist will intuitively complete your functions, execute your macros, and display suggestions to improving your code. Just press Tab at the start of a symbol and Visual Assist completes the action.

• Get faster turnaround with the Paradigm C++ Professional Edit and Continue option. Edit your code while debugging and have the debugger return them to the exact spot to test the changes. No annoying loss of focus when developing your application with Paradigm C++ Professional.

• With TargetExpert, you select the target type, platform, target memory model, controls, and types of libraries to use. Then, TargetExpert configures your project with the appropriate libraries and startup modules and makes any changes a snap as well.

• Easily and seamlessly integrate third party tools such as version control, real time OS, and configuration management software. Users get the integration and features they expect from convenient access to best-of-breed development tools.

• With ObjectScripting, you can even customize and automate your development environment so it meets your individual needs. Tailor the commands, menus, and windows of the integrated development environment to the way you work.

The browser is just one example of source code navigation tools built into Paradigm C++ Professional. Here the user is provided with a real-time listing of functions in the current source module.

Create the highest-performance applications

- Compile applications quickly using Paradigm real and protected mode optimizing compilers. New tools can be added to Paradigm C++ Professional as they become available to keep your investment current.

- Paradigm C++ Professional includes a C/C++ run-time library optimized for embedded system use. No startup code or run-time library helpers to struggle with when you use Paradigm C++ Professional.

- Embedded applications run fast using the full range of code optimizations found in Paradigm C++ Professional. Paradigm C++ Professional also delivers full access to the optimizing compilers of your choice for the fastest and tightest code.

- Support for the ANSI/ISO C++ specification includes support for the newest keywords and types, including *bool* and *namespaces*. C++ templates and exception handling are standard with Paradigm C++ Professional.

Integrated Development Environment

- The Paradigm C++ Professional Integrated Development Environment (IDE) puts all your programming tools within easy reach - you can develop code, debug, compile, browse through C++ objects, and reference help files without leaving the IDE.

- With Paradigm C++ Professional, you can use precompiled headers to compile your programs in a fraction of the time it normally takes. Then, use the Browser to navigate your application. Using the Browser, a click of the mouse takes you to the relevant source, the definition or all instances of its use.

- Configure the IDE to include custom tools, translators, and viewers on the Tools menu.

Paradigm C++ Professional editor

- The Paradigm C++ Professional editor is a seamlessly integrated component of the IDE; you can move easily between the editor, compiler, debugger, browser, and add-ons such as RTOS views and source management tools.

- Five different editor emulations are provided and you can create your own custom editor to match your preferences.

- The Paradigm C++ Professional editor parses your source code in real-time so you can navigate large source files with minimum effort. Tap into your source code and find functions, classes, structures, enumerations, or any word with the click of a mouse.

- Supports multiple files, and you can view them all simultaneously by splitting the Edit window into multiple panes.

- SmartSearch allows you to find and optionally replace text in editor files, projects, or anywhere on your PC.

- Many features of the editor, such as key mappings and syntax highlighting, are fully configurable.

- Virtual file system support means you can build changes to a file without committing the file to disk. Experiment with your code without the need to overwrite existing files.

Project Manager

- The integrated Paradigm C++ Professional Project Manager makes it easy for you to manage your C and C++ projects.

- You can customize the Project Manager to display only the files you want to see - with the flip of a switch you can view or hide the source-file dependencies (such as header files), the libraries and object files contained in your project.

- Simply double-click a source-file node in the Project window to bring that file into an active Edit window.

- The Lint utility provides syntax checking of source files in your Project Manager project tree, alerting to dead links, definitions, unreferenced header files, and other inconsistencies that might be otherwise overlooked.

- Use Source Pools to help you organize the files shared by different targets. Grouping and sharing core source files in multi-targeted projects makes it easy to manage these files as your projects become increasingly complex.

- Create multiple targets from a single project. This allows you to generate 20-, 24- and 32-bit targets or build multiple targets that share a common code base using Source Pools.

- With the Project Manager, you can set project options for an entire branch in the project hierarchy, and you can override the options for any single file in the project.

- By creating several Style Sheets, you can apply a set of options to any node in your project. Once set, you can quickly view and modify your option settings with the Options Hierarchy.

Debugging

- Paradigm C++ Professional provides a suite of 20-, 24- and 32-bit debuggers to help you locate and eliminate errors from your program code.

- The integrated debugger lets you debug real, extended and protected mode applications without leaving the IDE. You can execute your program line by line, inspect data elements and structures, and modify variables to see how different values affect program behavior.

- Because the debugger is fully integrated in the IDE, debugger views are text edit windows so when you find a problem you can make the change and immediately test your code without any change of focus. No more searching for the code in the editor, running make, and finding your code again in the debugger - your code stays right in front of you.

- Use the CPU view when you need to work at the assembly language level.

- Built in peripheral register viewers display the full detail of the processor peripheral registers.

- Complex breakpoint support makes it a breeze to break execution when the event of interest is reached. Pass counts and expressions are used to modify an event and actions taken when an event is recognized include break execution, enable/disable logging, log or evaluate an expression, or enable/disable a breakpoint group.

In-circuit emulator support

- Optional in-circuit emulator integration is available with overlay memory, real-time trace and hardware event system support.

- Save and restore in-circuit emulator configurations.

ROM emulator support

- Debugging support supplied for EmuTec PROMJet and MG Tech PromICE ROM emulators.
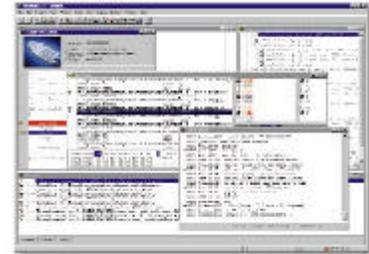
RTOS integration

- There is integrated support of popular real-time operating systems in Paradigm C++ Professional. You can view RTOS structures during real mode debugging using this interface.

Maximize application development

- Collaborate, share, and secure source code on large projects with integrated version control system support.

Command line tools

- If you prefer to work from the command line using traditional makefiles, Paradigm C++ Professional provides a set of fast, command line tools.

Paradigm C++ Professional contains support for debugging with remote kernels, JTAG, ROM emulators and popular in-circuit emulators.

Product Comparison Chart

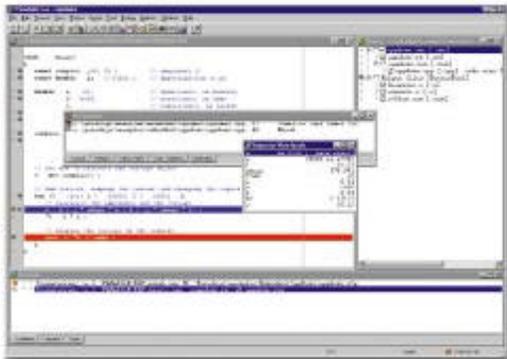| Feature	Benefit	Paradigm C++ Professional	Old Style Debugger
True integrated development environment	Do all your application development in one place with your favorite tools at your fingertips. No need to switch from Editor to Make to Debugger and back.	✓	
Integrated tools	20-, 24- and 32-bit compiler, assembler, linker, locate utility, and debugger are fully integrated into Paradigm C++ Professional.	✓	
Command line tools	All internal tools available for command line use.	✓	
Project Manager	Keeps your project up-to-date, rebuilding only when necessary. Source Pools and Style Sheets help simplify management of large projects.	✓	
Visual Assist	Makes a breeze of correcting source code, typing functions and symbols and in executing macros in the Editor.	✓	
Source code browsing	Quickly find class, data, or function declarations and references in your project.	✓	
C++ Support	Full support for debugging embedded C++ applications.	✓	
C++ Class Browser	Graphical view of C++ classes.	✓	
Edit and Continue	Make and apply code changes while debugging without losing source code focus for faster turnaround.	✓	
In-circuit emulator support	Use the PDREMOTE/ROM kernel for software-only debugging or use an optional in-circuit emulator interface for full access to hardware resources.	✓	✓
JTAG interface support	Debug using popular microprocessor cores and JTAG chip technology.	✓	
ROM emulator support	Debugging support supplied for EmuTec PROMJet and MG Tech PromICE ROM emulators.	✓	
RTOS integration	Debugger can access RTOS data types such as tasks, queues, semaphores, and mailboxes.	✓	✓
Integrated version control	Collaborate, share, and secure source code using integrated version control.	✓	
Lint utility	Check syntax of source files in a project for unused files and other potential errors.	✓	

Specifications

Features

- Complete integrated development environment (IDE) featuring editor, project manager, source code browser, and debugger

- Integrated and command line versions of real and protected mode C/C++ development tool suites (compiler, assembler, linker, locate, make, librarian)

- Support for debugging with stand-alone remote kernel, JTAG, ROM emulators and popular in-circuit emulators

- Integrated real-time operating system support

- Integrated source code control system integration

Supported

- Any Intel, AMD, NEC, VAutomation or RDC x86-compatible microprocessor is supported. Actual support for individual processors varies with the processor type.

Requirements

- PC with a Pentium-III processor or better

- Microsoft Windows 95/98/ME/NT/XP/2000

- 128 MB of RAM (256 MB recommended)

- Hard-disk space required:
  - Typical installation: 100 MB

- CD-ROM drive

- VGA or higher-resolution monitor; Super VGA recommended

- Microsoft Mouse or compatible pointing device

For More Information

For more information about Paradigm C++ Professional, visit us at http://www.devtools.com.

Ordering Information

To order Paradigm C++ Professional or other Paradigm tools, call (607) 748-5966. Outside the United States and Canada, please contact your local Paradigm distributor.

For the latest developer news and more information on Paradigm's line of embedded system development tools, including support programs and training, visit us online at http://www.devtools.com.