

CLARION

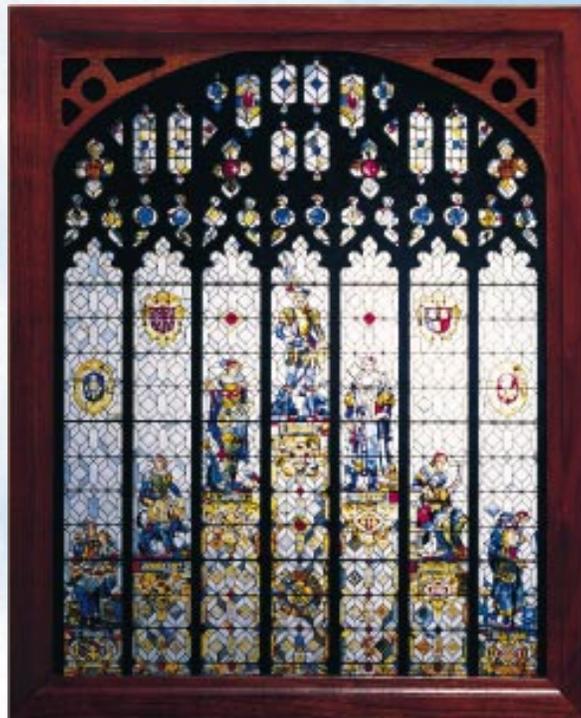
FOR WINDOWS™

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Rapid Application Development Environment

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Data Based Advisor, February '95
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- **"Clarion is the best for business applications, and that's business with a capital 'B.'"**
InfoWorld, 8/14/95

No coding. No compromise. Powerful compiled applications for a broad range of database users, from novice to old hand to professional developer.



The level of automation in creating applications with Clarion for Windows surpasses other RAD tools. Other

RAD tools typically let you add a user interface control, but then expect you to write code to implement some associated functionality. With Clarion, you add a complete business solution: a user interface control and the code that 'gets the job done.'

Create Database Applications for
Windows® 3.x, Windows 95™ and Windows NT™.

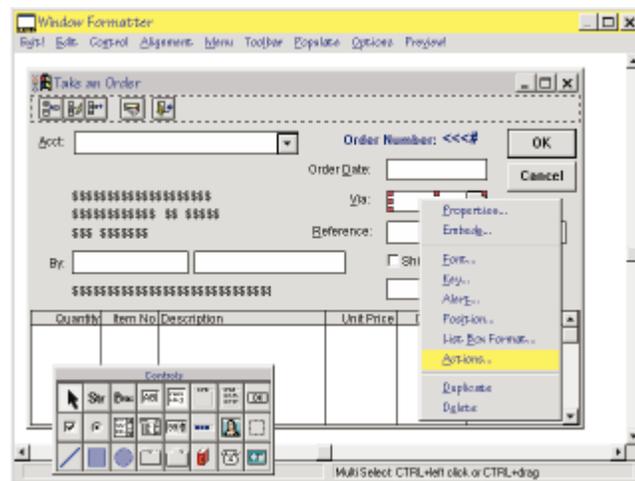
TopSpeed
CORPORATION

“Clarion is the best for business application

No matter what version of Windows you develop for—Windows 3.x, Windows 95, or Windows NT—Clarion for Windows increases your productivity, allows you to deliver the same app to each platform while maintaining a single project, and helps you produce **small, fast, royalty-free, native** executables.

As a development environment, Clarion for Windows can do three things for you: help you work better; help you work faster; help you work smarter.

- Working **Better**: are you an independent software developer who wants to write more powerful programs? Programs with improved functionality whose impact on your end users can be measured? Programs that deliver the business solution the spec requires?
- Working **Faster**: are you a corporate programmer who wants to increase productivity by delivering programs faster? Do you need a tool to break up that application backlog? Do you have to solve a business problem now?
- Working **Smarter**: is long term program maintenance a big headache? Is your project flexible enough to grow with end user demands, or does it hit the wall when the app changes from spec to delivery? What are the net results—return on investment, time to market, savings, user/customer satisfaction, quality—over the project’s life cycle?



Any RAD tool can let you place a button using visual design tools. Only Clarion places a complete business solution—for example, a combo box that automatically adds a new record to a child file if the end user types in a new value.

Clarion for Windows is a Rapid Application Development system for Windows featuring both 16 and 32-bit compilers. Clarion’s replaceable database drivers and full-featured data dictionary support powerful database applications for either local or Client/Server environments. The Clarion language, the only true Fourth Generation Language in a Windows RAD tool, is easy to master, and promotes easy code maintenance.

The level of automation in creating applications with Clarion for Windows surpasses other RAD tools.

The Clarion Application Wizard builds complex applications with no intervention necessary. Your starting point is a full-featured application. The Wizard creates multiple-order browse lists selectable by tab; synchronized parent-child dialogs with a form for the parent on one tab, and a listbox displaying related child records on another. Reports for every file. You can take a database dictionary with dozens of files or tables defined, then generate and compile an application with literally hundreds of procedures—cleanly. To borrow a phrase, “Welcome to the Next Level!”.

The push-button programming aspect of Clarion frees you to concentrate on the data model and business rules. By emphasizing pre-planning and design

within the database dictionary, the development environment makes it easy to generate robust, tight business database applications with a common look and feel. The dictionary can store pre-formatting options, such as specifying a specific type of window control for a particular field. You can specify radio button options, including a default choice for new records. You can specify a text control with a certain font and font style. By storing the pre-formatting options in the data dictionary, you can set a common look for as many applications as will be made to maintain the same set of tables, since you can create many applications from a single dictionary. Clarion also makes it easy to create the database dictionary, as it automatically imports file or table definitions from any data source via its

assortment of direct drivers or via ODBC. Whether a .DBF file on a local PC, or a database on an Oracle, AS/400, or MS SQL Server DBMS, the data dictionary automatically imports the table or file layout.

By emphasizing the data definition in the development process, Clarion achieves a level of code maintainability that other RAD tools can’t match. Rather than using one-way wizards to define a database, as other tools do, changes made in the data dictionary migrate via live links to the application file. If you have to, for example, add a field to the database, it’s only necessary to regenerate the code and recompile. Using other RAD tools, it’s often best to start over from scratch.

ons, and that's business with a capital 'B.'"

—InfoWorld, 8/14/95

The new 32-bit compiler makes Clarion, which was also the first 16-bit RAD with a compiler, the first RAD tool to compile applications in the new Win 32 Portable Executable format. Clarion for Windows 1.5 is an evolutionary tool for database programmers who expect to support both 16 and 32-bit Windows for a transitional period. As a developer, you don't have to worry about what version of Windows either your end users—or you—run. You can build apps for any platform, from any platform, simply by selecting an option. Clarion clones features across 16 and 32-bit Windows. Windows 3.x end users can be provided a Windows 95 look and feel via 16-bit versions of controls such as property sheets, tree, and progress controls. Windows 95 and Windows NT applications can safely and reliably incorporate 16-bit .VBX controls.

The Clarion for Windows Application Generator creates powerful, fully customizable applications quickly, through the use of templates. Clarion Templates provide functionality equivalent to the base object classes in object oriented programming environments; they contain pre-written data and code. Clarion templates, in addition, include another design-time layer consisting of a user interface, enabling the Clarion developer to customize their properties and functionality without knowing anything about underlying code. Clarion programmers can easily create their own templates. Clarion developers enjoy the benefit of high code reusability, usually associated with OOP development tools, yet also enjoy the gentler learning curve of a traditional structured programming language with a seamless, built-in database grammar.

As a development environment, Clarion Templates distinguish Clarion for Windows from other RAD tools by the depth of functionality contained within the templates. Other RAD tools feature visual design tools which allow the developer to place a user interface control, such as a button. Yet the developer must write code to

implement the behavior required when the end user, for example, presses the button. Clarion templates contain both the user interface control and the executable code to make that

control a complete business solution, such as a file lookup or a record locator. In effect, Clarion for Windows is a RAD's RAD. It

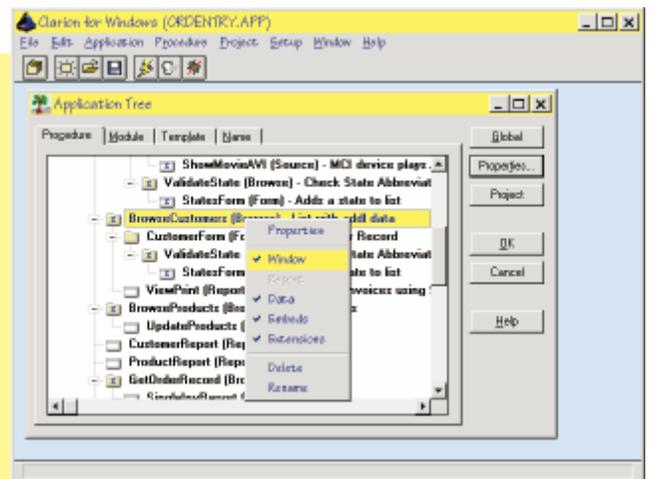
requires significantly less coding than other RAD tools when used to create business-oriented applications.

As a traditional, structured language, Clarion represents an alternative for programmers who seek the reusability of objects without the conceptual leap required to move from, for example, COBOL or Xbase, to SmallTalk or other OOP languages. The Clarion language gives you total control. Even beyond the many properties and extensive functionality you set using the template interface, you can write custom code to execute within the lines of code generated by the template. Embed points are available to place your code at logical milestones within a given procedure: before or after opening the data files; before or after opening the window. When a given window control is selected. When the end user changes focus to another windows control. There can be literally hundreds of embed points available within a single procedure, at any of which you can choose to place your custom code.

Clarion for Windows also

distinguishes itself because its links between the data dictionary and application generator are dynamic. Other tools that rely on a database

A logical procedure call tree helps organize your project. You can access windows, reports, or embedded source code points directly from the tree. When you create a new procedure, it automatically appears on the tree as a "To Do" item.



wizard (or app wizard) work only one way—the developer sets up the application, but cannot call the wizard to change an option without starting the project over. With Clarion, you can change an option in the data dictionary any time. For its entire life cycle, a Clarion application is automatically updated whenever its underlying data dictionary changes. In addition to pre-formatting controls, you can also modify Referential Integrity Constraints, Field Validity rules, and many other options. If you need to change the database design, (which is sometimes a nightmare with other RAD tools), with Clarion you can simply add a field to the dictionary, open the window you want to display the new field in, then populate it there. Clarion even generates an executable to convert your existing data file to the new structure.

Just one button press. You can create complete applications literally within minutes.

Applications developed with Clarion for Windows are small (typically less than 1MB including database drivers), fast, and stable. And you distribute them royalty free.

CLARION

FOR WINDOWS™

- ✓ **Visual Design Tools:** the **Window Formatter** supports standard window and .VBX controls. Newer controls such as property sheets, tool tips, and progress controls are backwards compatible to Windows 3.x. The **Report Formatter** supports preview, multiple grouping, and multiple details. No additional runtime modules or external report writers are necessary.
- ✓ **Application Generator/Templates:** **tried and true pre-written code**, an intelligent interface for customizing it, links to the database dictionary, and a smart code generator that generates only the Clarion language code needed to support the functionality you select. The **Application Tree**—a logical procedure call tree—is the center of the Clarion for Windows development environment. It provides a hierarchical list of the procedures that make up your program and both describes and organizes your project.
- ✓ **Database Dictionary and Drivers:** the **Database Dictionary** organizes your application's data files, their relationships, referential integrity constraints, validity checking rules, even pre-formatting controls referencing database fields. Changes made to the dictionary update the application. The drivers are compact dynamic link libraries; for a given file format, you ship the .DLL (typically 100K) with the application. The drivers (both 16 and 32-bit) that come with the product include **ASCII**, **BASIC** (comma or tab-delimited), **Btrieve**, **Clarion**, **Clipper**, **dBase III and IV**, **FoxPro**, **DOS** (binary), **ODBC**, and **TopSpeed**. SQL drivers available separately.
- ✓ **Reports: built in programmable report writer** and report template creates reports which are compiled into the executable. Provides complete control over the Windows printer device settings.
- ✓ **Clarion Language and Template Language:** Clarion is a **structured, compact, expressive fourth generation language**. It's easy to read, easy to write, and easy to learn. The Clarion Template Language is a meta-set of the Clarion language. It controls the development environment, gathers design specifications, and generates source code. In addition to using the standard templates, you can **write your own templates**, or purchase additional templates from third party vendors.
- ✓ **Compiler/Project System:** both compilers (16 and 32-bit) produce **small, fast, royalty-free executables**. Most Clarion applications fit on a single high density disk (database excluded). They run comfortably on systems meeting the minimum recommended requirements for the version of Windows you set as the target. And as compiled executables, Clarion apps **execute literally tens of times faster than interpreted applications**.
- ✓ **Debugger:** fully Windows-hosted, **full featured debuggers** (separate debuggers for 16 and 32-bit) include support for conditional breakpoints and watchpoints, a spy window for Windows messages, and many other features.

System Requirements

You can run the Development Environment on any system meeting the minimum system requirements for Microsoft Windows 3.x, Microsoft Windows 95, or Microsoft Windows NT 3.51. For better performance, we suggest your system have at least 8MB RAM, 12 MB RAM, or 16 MB RAM for these respective operating systems.

You'll also need between 8 and 20MB free hard disk space, depending on the Setup options you select.

The applications you develop will run comfortably on even those machines meeting only the minimum requirements for these operating systems.

The logo for TopSpeed Corporation features the word "TopSpeed" in a large, bold, 3D-style font with a color gradient from yellow to red. Below it, the word "CORPORATION" is written in a smaller, black, sans-serif font.

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