

# MATLAB® Compiler 4

Convert MATLAB® programs into stand-alone applications and software components

MATLAB® Compiler lets you automatically convert your own MATLAB® programs into self-contained applications and software components and share them with end users. Applications and components created using MATLAB Compiler do not require MATLAB to run.

MATLAB Compiler significantly reduces application development time by eliminating the process of manually translating MATLAB code into C or C++. You can compile both stand-alone applications and software components using just one command and then quickly package and distribute them to end users who do not work in MATLAB.

By using MATLAB Builder products (available separately) with MATLAB Compiler, you can convert your MATLAB applications and algorithms into additional types of software components, such as Java classes, .NET components, or Excel add-ins, for use within other applications.

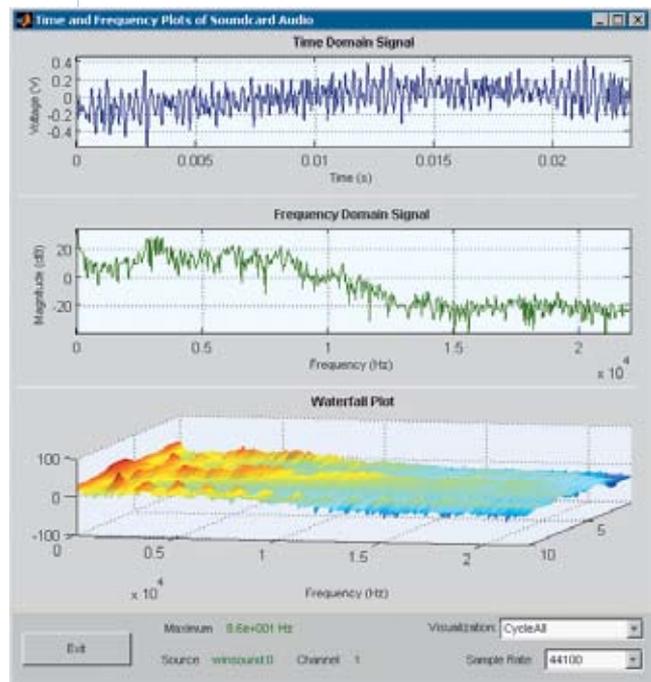
## Working with MATLAB Compiler

You can prototype and develop your applications in the MATLAB environment and then use MATLAB Compiler to deploy them to your end users as stand-alone executables and software components. MATLAB Compiler removes the need to recode in C or C++ by generating C or C++ interface code.

At execution time, the application or component created with the MATLAB Compiler use the MATLAB Component Runtime (MCR). The MCR is provided free with MATLAB Compiler, to be distributed along with your application to all end-users.

## KEY FEATURES

- Converts your MATLAB programs into executables that run outside the MATLAB environment
- Lets you incorporate MATLAB based algorithms into applications developed using other languages and technologies, such as C or C++
- Lets you easily package and distribute stand-alone executables and software components royalty-free



Spectrum analysis application, deployed and running outside MATLAB on Windows. The application, developed in MATLAB, directly acquires signals from a data acquisition board and performs data analysis and plotting.

## Building an Application

MATLAB is an integrated environment that provides tools to help you rapidly prototype, develop, and test your application. These include a high-level, matrix-optimized language and built-in functions for math, graphics, and data analysis. MATLAB development tools include a language-specific editor, a debugger, a performance profiler, and interactive tools for developing graphical user interfaces (GUIs).

## Converting Your Application

Using MATLAB Compiler, you can automatically convert your MATLAB application into:

- Stand-alone applications
- C or C++ libraries (DLLs in Windows, shared libraries in Linux and UNIX)
- Software components, such as Java classes, .NET assemblies, or Excel add-ins for use within other applications (with MATLAB Builder products, available separately)

## Creating a Stand-Alone Application

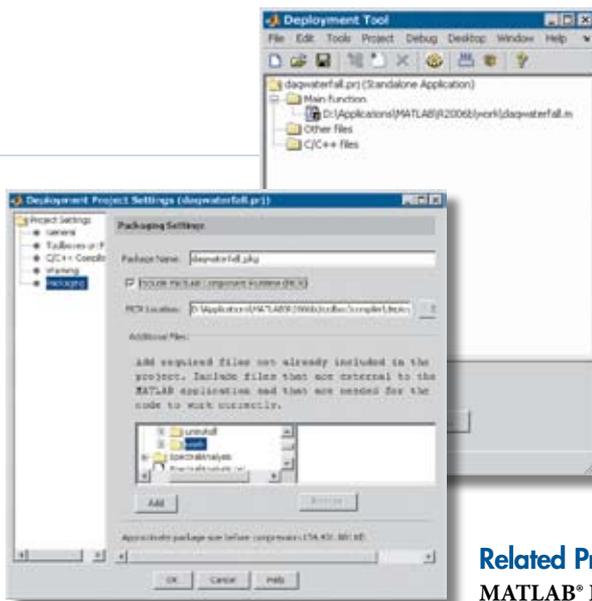
MATLAB Compiler automates the process of turning your MATLAB application into a stand-alone executable. Just one command enables MATLAB Compiler to:

- Determine the MATLAB functions for the final application
- Generate the C or C++ interface code to create the executable
- Encrypt all the files into a single, compressed file
- Compile the C or C++ interface code into object code
- Link the object files and libraries to create the executable

MATLAB Compiler can integrate your own C or C++ source files into the final application.

## Creating a Function Library

You create a MATLAB function library using the same command that you use to create a



Deployment Tool, the graphical user interface for MATLAB Compiler, organizes all your files into a project, and then builds and packages them for deployment.

stand-alone application. MATLAB Compiler produces a header file that you include in your own C or C++ application and a library file to link with your application.

## Converting Applications into Software Components with the MATLAB Builder Products

Using the MATLAB Builder products with MATLAB Compiler lets you automatically convert MATLAB applications and algorithms into add-ins that can be used within other applications. For example, with the MATLAB® Builder for Java™, you can generate independent Java classes.

## Distributing Your Application

After creating your application with MATLAB Compiler, you can distribute it to end users to run independently of MATLAB. Deployment Tool, the graphical user interface in MATLAB Compiler, enables you to package the MCR along with your application and its supporting files.

## Compiling MATLAB and Toolboxes

MATLAB Compiler supports the full MATLAB language and most MATLAB based toolboxes, with some exceptions. For details on compilable features and products, visit [www.mathworks.com/products/compiler/compiler-support.html](http://www.mathworks.com/products/compiler/compiler-support.html)

## Required Products

**MATLAB**

## Related Products

**MATLAB® Builder for Excel®.** Create MATLAB based add-ins for Microsoft® Excel

**MATLAB Builder for Java.** Convert MATLAB applications to Java classes

**MATLAB® Builder for .NET.** Create MATLAB based .NET and COM components

For a complete list of MATLAB Builder products, visit [www.mathworks.com/products/compiler](http://www.mathworks.com/products/compiler)

## Platform and System Requirements

MATLAB Compiler requires a system C or C++ compiler (such as gcc or Visual C++) to generate stand-alone executables and libraries. For additional platform and system requirements, visit [www.mathworks.com/products/compiler](http://www.mathworks.com/products/compiler) ■

## Resources

**VISIT**  
[www.mathworks.com](http://www.mathworks.com)

**TECHNICAL SUPPORT**  
[www.mathworks.com/support](http://www.mathworks.com/support)

**ONLINE USER COMMUNITY**  
[www.mathworks.com/matlabcentral](http://www.mathworks.com/matlabcentral)

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