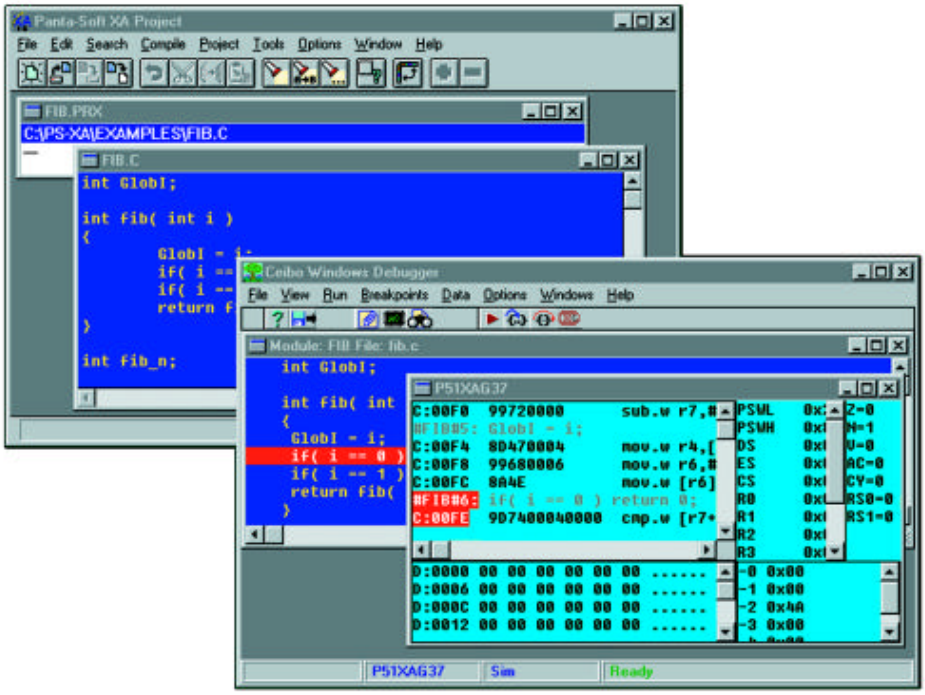
PantaSoft-XA Software Tools



Software Tools for Philips XA Microcontrollers Software Tools for Philips XA Microcontrollers

FEATURES

- **ANSI Standard C Cross Compiler**
- **XA Relocatable Assembler**
- **XA Linker and Locator**
- **C Source-Level Simulator/Debugger**
- **Full MS-Windows Interface**
- **Extended Keywords Specific to XA**
- **Full Floating Point Support**
- **Direct C Interrupt Handling**
- **Built-In Optimizer**
- **Direct Interface to In-Circuit Emulators**
- **Full Embedded Run-Time Libraries**
- **Complete XA Architecture Support up to 16 MByte**

ASM-XA RELOCATABLE ASSEMBLER

The ASM-XA Relocatable Assembler translates an XA Relocatable Assembly Language program into relocatable object code. The Relocatable Assembler includes commands and directives specially designed to fit the XA architecture. ASM-XA processes the input file and executes assembly directives and commands. The conditional compilation support may be used to include or exclude sections of your source while assembling the project. Special NOP optimization is provided to align code labels without affecting the speed performance.

The object code generated by the Assembler includes information about the symbols and lines used in the source file. It has been specially designed to facilitate easy translation of code from the 8051 Assembler. ASM-XA is integrated into a modern graphic interface, which paves the way to invoke tasks wanted for a complete development environment.

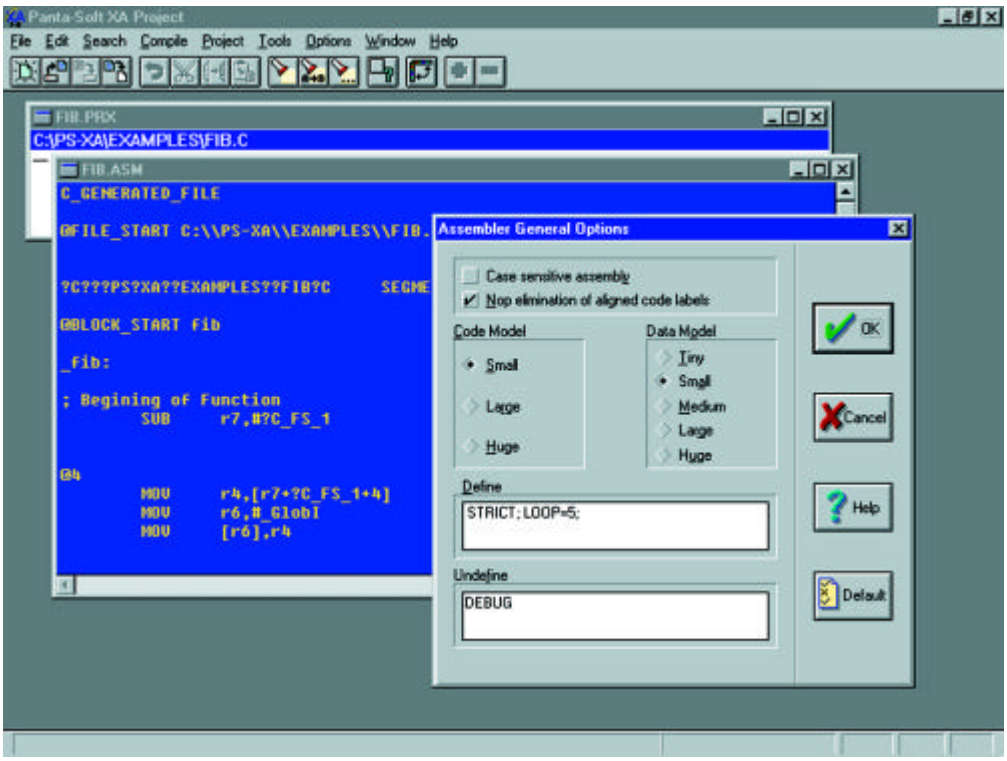


Figure 1: ASM-XA

C-XA COMPILER

C-XA is an ANSI C compiler with extensions designed to support XA special features. The compiler is compatible with other ANSI C compilers. C-XA Compiler is designed to make the code faster and more compact by using the special chip features. A complete code and data memory models configuration is available to fit any application.

C-XA special features permit the user direct access from C source to the XA chip. The features also include direct access to the interrupt mechanism, as well as access to the XA SFRs. C-XA supports 9 different data types including

floating point variables and bit variables. The C Compiler comes with a variety of the most frequently used C Library functions associated with embedded systems. Some of the low-level functions, like those which handle I/O, are provided with source code. The Compiler may be used with in-line assembler instructions for direct access to XA resources. High performance optimizer achieves the best results by reducing the code size.

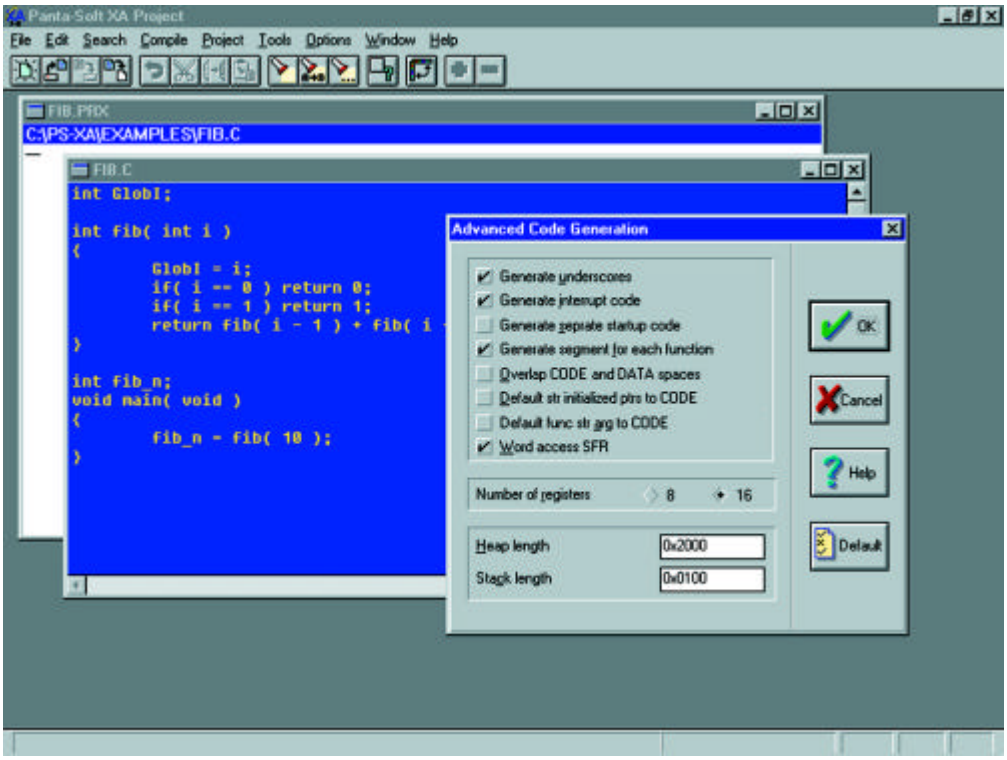


Figure 2: C-XA

DEBUG-XA DEBUGGER/SIMULATOR

DEBUG-XA is a Source-level Debugger/Simulator for the XA architecture. The program enables fast and reliable program debugging at source-level for C-XA and ASM-XA.

The Simulator/Debugger for the PantaSoft C-XA is fully source-level and controls the program flow in HLL or Assembler. The debugger operates with or without an in-circuit emulator. Without the emulator, all the functions are simulated in the PC. DEBUG XA can be used with Ceibo EB-XA Emulation Board and Ceibo DS-XA In-Circuit Emulator for complete real-time operation. The user can inspect variables using the watch window and set breakpoints in the source code. DEBUG-XA also includes an on-line assembler that the user can invoke to change the executable code during the debug session. DEBUG-XA is based on a Windows platform, so it may be used in a multi-tasking and multi-window application.

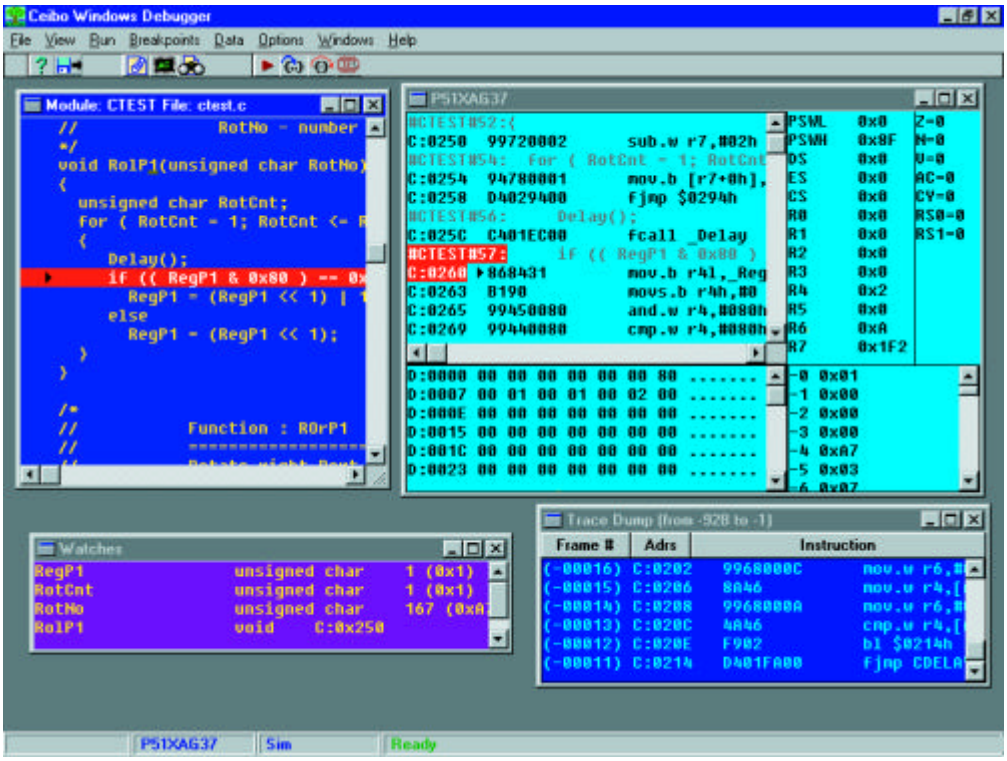


Figure 3: DEBUG-XA

LINK-XA LINKER AND LOCATOR

LINK-XA supports complete linkage, relocation and format generation for producing absolute object code. LINK-XA accesses only the requested modules in the library and combines them in the absolute object code. A complete Librarian utility maintains the libraries. The linker can combine object files created by the C-XA Compiler and ASM-XA Relocatable Assembler into one absolute file, as well as find the necessary objects from libraries created by the Librarian. LINK-XA can create the absolute file in several output formats, including Intel HEX and IEEE-695. The Linker can also create a detailed map file including information about the location of ***segments and symbols.***

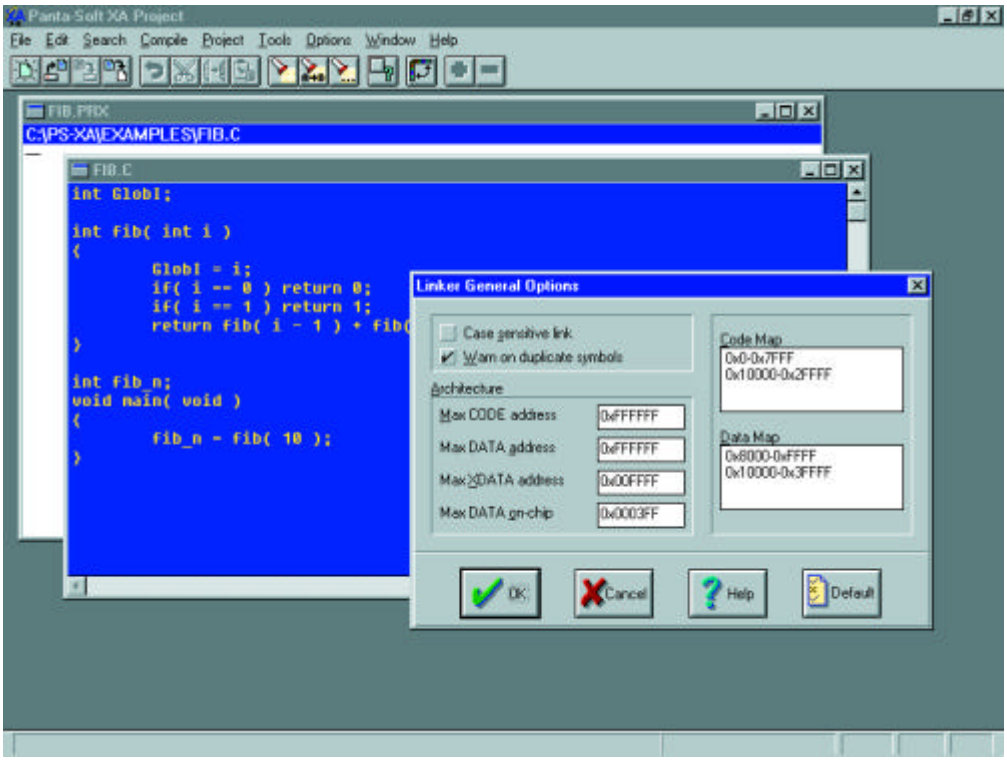


Figure 4: LINK-XA

PantaSoft-XA - ORDERING INFORMATION

Item	*Description*
PC-XA	C-Compiler, Assembler, Linker, Debugger/Simulator
C-XA	C-Compiler, Assembler, Linker
ASM-XA	Assembler, Linker
DEBUG-XA	Debugger and Simulator
C-XA-64K	C-Compiler, Assembler, Linker limited to 64K Code