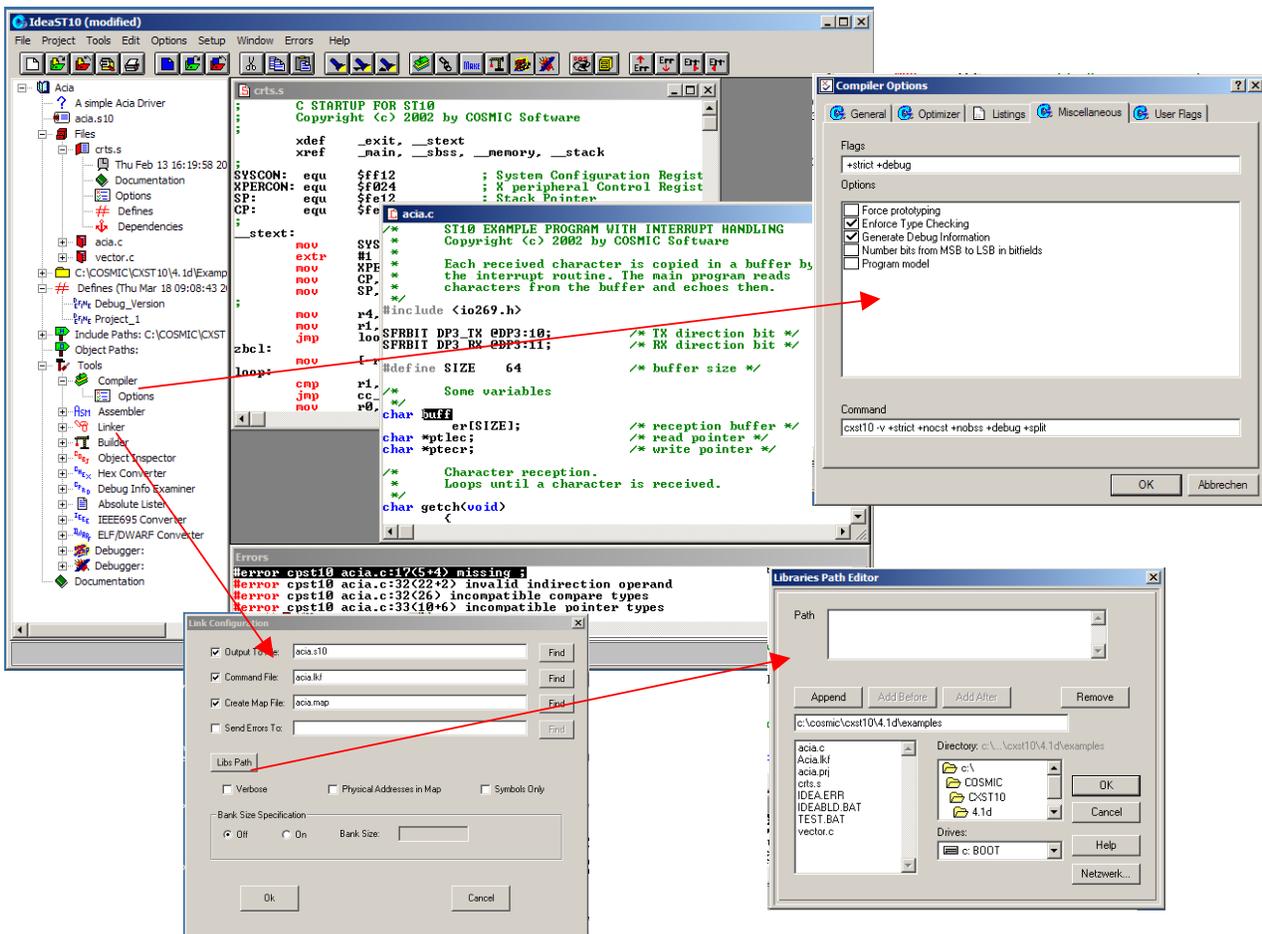


COSMIC's ST10 and XC16x Compiler

Cosmic Software's C16X/ST10 Development Tool Suite is a comprehensive toolset designed to deliver the performance and features necessary to create cutting edge applications while ensuring the control to exploit every advantage of each processor. To help its customers succeed, Cosmic Software continually enhances the C16X/ST10 toolset using its 20+ years of design experience and valuable customer feedback.

The C Compiler package includes: an integrated development environment with optimizing ANSI-C cross compiler, macro assembler, linker, librarian, hex file generator, object format converters, debugging support utilities, run-time library source code, and a multi-pass compiler command driver. The compiler also supports non-intrusive C source-level debugging with COSMIC's line of ZAP debuggers. All COSMIC products include one year of technical support and updates. ST10 and XC16x Specific features include:



Technical Details ANSI C-Compiler

Cores	The ST10 and XC16x compiler generates highly efficient code
ANSI and ISO C Compiler	Follows ANSI and ISO rules and conventions Code and libraries are optimised specifically for the ST10 and XC16x processor cores
C Support Special Core Features	Direct MAC Support Up to 4 Registers used to directly pass arguments
Special Features	Language Extensions to ANSI for Embedded Systems Optimized Function Calling Global and Processor-Specific Optimisations Optimised to use all ST10 / XC16x Instructions and Addressing Modes Function Inlining
C Support System Memory	Compiler source extensions provide efficient use of the ST10 and XC16x Bit addressable System Memory area
Bit Variables	Implements ANSI/ISO 99 Variable Type “_Bool”
Interrupts	C support for Interrupt Handlers
Re-entrant and Recursive	Code is fully re-entrant and recursive using standard ANSI stack frame conventions
Stack Usage	User control over stack use
Moveable Code Feature	Linker automatically creates a segment in ROM to store moveable code to help create and maintain boot loaders and RAM based code
Byte EEPROM Support	Compiler provides transparent support for on-chip EEPROM
In-line Assembly	Supports three convenient methods for adding assembly code inside a C program including an argument passing mechanism
IEEE-754 Floating Point	Supports IEEE 32 bit single precision floating-point format with full ANSI libraries
ANSI C-Library	Royalty free Library Source Code
Absolute Listings	Optionally produce relocatable and/or absolute C interspersed with the corresponding Assembly listings
Automated Check Sums	Easy to use check sum facility and library allow users to quickly implement an efficient check sum on any or all sections
Source encryption	Source encryption supports “scalable objects” by combining protected source code with unprotected header files.

Mixed C and Assembly	COSMIC tools support mixed C and Assembly applications. Including Assembler support for C #defines and #includes
Windows and UNIX	Available on PCs running Windows 95/98/ME/NT4/2000/XP and UNIX systems running PC-Linux, SUN Solaris and HP-UX
Host Independent Formats	Relocatable and absolute object formats are host independent allowing users on PC Windows, Linux, SUN and HP to share objects for linking and debugging
IEEE-695 and ELF/DWARF	Supports the IEEE-695 and ELF/DWARF 2.0 standard debug formats used by many popular emulators and logic analysers
Flexible Compiler Interface	May be used with virtually any development environment including ones from CodeWright, RistanCASE DAC, GNU Make, Opus Make and Nmake
In-Circuit Emulator Compatibility	ST10 and XC16x compiler is compatible with emulators and BDM debuggers from Hitex, I-Systems, and Lauterbach