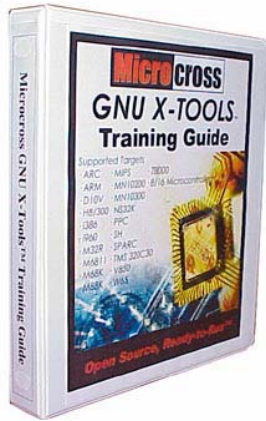




# GNU X-Tools™ Training Guide

Open-Source, Royalty-Free, Ready-To-Run™



Microcross is the first company to offer a professional embedded training guide for GNU tools. It is tailored for GNU X-Tools users and targets entry to intermediate level users. The examples are based on the ARM7T Evaluator Board, but are applicable in theory to all GNU targets with a few changes in syntax (to be more specific, target tool alias names are different – e.g., arm-elf-gcc versus mips-elf-gcc).

The straight-forward techniques presented in using GNU tools for embedded development makes this product one of the most useful training guides ever developed for GNU users. Authored by Bill Gatliff, Independent Consultant, and James Calvin, founder of Microcross, this training guide sets a precedent for rapid training in GNU tools. A user can take an after-hours, crash course using the Microcross GNU X-Tools™ Training Guide and learn how to harness the power of the world's most ubiquitous toolchain in less than two weeks! Alternatively, Microcross offers on/off-site training courses. The GNU X-Tools™ Training Guide comes with a legacy copy of GNU X-Tools v1.0 -- check the website for latest pricing.

## Course Topics

- GNU License
- Simple "Hello, world!" Example
- Building a GNU Toolchain
- How to Build the arm-elf Toolchain
- Native, Simulated, Remote Debugging
- Advanced Debugging Techniques
- Graphical Debugging with DDD
- Dissecting an Application with GNU Utilities
- Working with Libraries in GNU
- Techniques in Using the GNU Compiler
- Linker Scripting for Embedded Applications
- Executable Object Manipulation/Conversion

- GNU Assembly Programming
- Interrupt Handling Using GNU
- Using / Porting Newlib C Library
- Using Debug Agents with GNU GDB
- Building Embedded Startup Code
- Modifying GCC Spec Files
- Using GNU C++ for Development
- More...

## Processors Supported by GNU X-Tools™

- ARM / Thumb
- Atmel AVR
- Intel / AMD x86
- Intel XScale / Thumb
- MIPS 16/32
- MIPS 64
- Freescale / AMCC PowerPC
- Freescale M68K/CPU32/Coldfire
- Freescale M-Core
- NEC V850x
- Renesas M32R
- Renesas H8/300
- Renesas SuperH-1/2/3/4
- SPARC/SPARC/Lite/UltraSPARC
- SuperH (SH1/SH2/SH3/SH3e/SH4)

Microcross offers a full embedded solutions product line consisting of Visual X-Tools™ IDE , GNU X-Tools™, Cogent Single Board Computers (based on ARM, Coldfire, PowerPC, MIPS and Xsale processors), Micrium uC/OS-II RTOS, EBSnet RTIPS network stack, and several debug connection agents, manufactured by companies like Cybertec, EPI Tools, Macraigor Systems, and Nohau. Microcross provides the first line of product support for all kit solutions sold by Microcross.

See <http://www.microcross.com> for the latest GNU versions of each supported target CPU.

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