

# UDE FLASH Programming

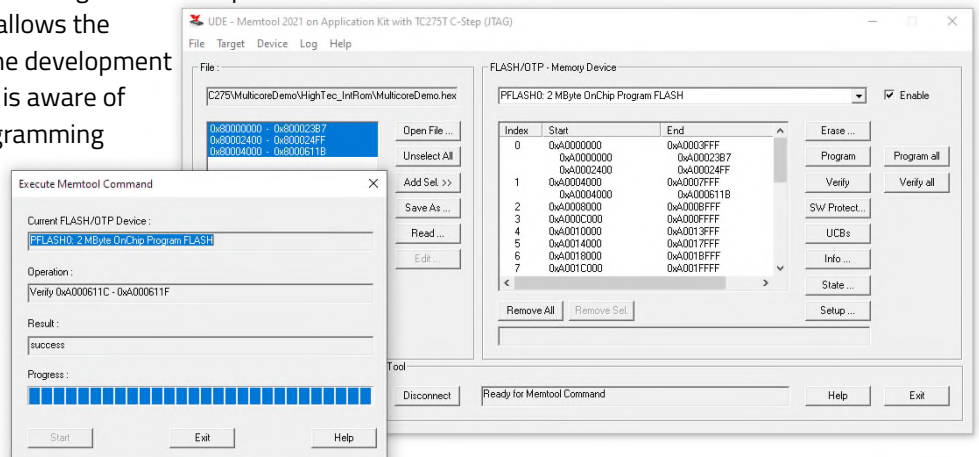
## UDE MemTool FLASH/OTP Memory Programming Tool

UDE MemTool is a tool for programming on-chip as well as external FLASH/OTP and EPROM's. It integrates seamlessly with the UDE Universal Debug Engine Integrated Development Environment. UDE MemTool comes as add-in for the Universal Debug Engine (UDE) and allows the FLASH/OTP programming during the development cycle inside of UDE. UDE MemTool is aware of the memory map and runs the programming algorithm when required.

UDE MemTool can be used with a separate frontend interface as tool. All programming functions are available via standard COM automation interfaces, too. Using these interfaces, the features of UDE MemTool may be integrated

into automatic production and test systems or started via scripts. Additionally, UDE MemTool offers a batch mode and a command line interface for automation purposes.

UDE GangProgrammer can program FLASH memory devices simultaneously to save time and optimize the resource usage in a production environment.



### Functions of UDE MemTool

UDE MemTool offers the following functions (depending on the type of memory):

- Erasing the entire memory module or selected sectors of the memory module
- Loading Intel Hex and Motorola S-Record files
- Programming all or selected portions of the file into the memory module
- Comparing all or selected portions of the file to the current contents of the memory module
- Read back and save-to-disk of the current memory content
- Setting and Resetting the Chip/Sector Protection if applicable (on-chip only)
- UCB (User Configuration Blocks), ABM (Alternate Boot Mode), BMI (Boot Mode Index) header handling for some derivatives.
- UDE MemTool can handle more than one memory module, and is using on-chip RAM.

### Supported Microcontroller with On-chip FLASH/OTP Memories

- AURIX and TriCore
- PowerArchitecture and PowerPC
- Cortex-M0, Cortex-M3, Cortex-M4, Cortex-M7, Cortex-R4, Cortex-A8, Cortex-A9, Cortex-A53, XMC1000, XMC4500
- ARM7, ARM9, ARM11, SH-2A
- STM32xx, RH850
- XC2000, XE166, XC800

See complete list at website <https://www.pls-mc.com>.

### Supported External FLASH

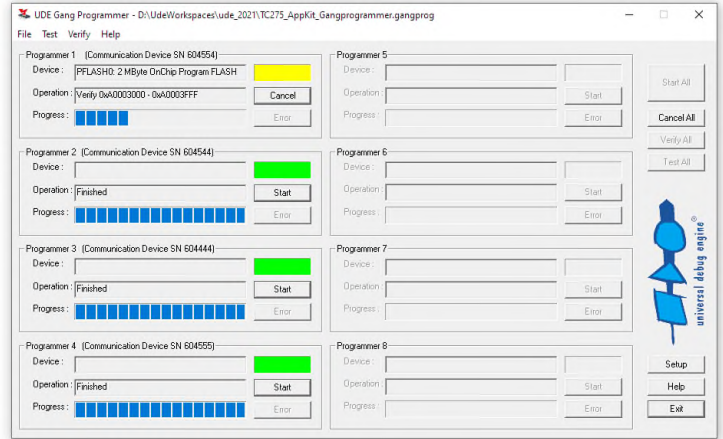
- Parallel NOR-FLASHs
- Serial EEPROMs (I2C, SPI, SPIFI)
- NAND-FLASH (on demand)
- Further devices under development or on request.

As communication channels, you can use the ASC bootstrap loader, CAN bootstrap loader, CAN in combination with ASC bootstrap loader and JTAG. The MemTool offers additionally the host-target communication via a standard RS232 host interface (COMx). Besides RS232 interface, the usage of the K-Line interface is possible. Possible communication interfaces between the access devices and the host PC are USB, IEEE1394, or Ethernet can be used.

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## UDE MemTool GangProgrammer

UDE MemTool can program FLASH memory devices simultaneously for saving time and optimizing the resource usage in production environments. The GangProgrammer utility administrates up to 8 programming stations. The particular access devices can be connected to the host PC via USB, IEEE1394, or Ethernet interfaces, utilizing hub devices. The targets are managed by separate target configurations. This provides maximum flexibility to accommodate customer requirements. With a full-custom version, even more advanced features can be included into MemTool.



## UDE MemTool Product Overview

	UDE Product ID	MemTool /UAD2 <sup>pro</sup>	MemTool /UAD2 <sup>next</sup>	MemTool /UAD3 <sup>+</sup>	MemTool /ASC
<b>Target <math>\mu</math>Controller<sup>3</sup></b>		Universal	Universal	Universal	Host
<b>Communication interface</b>		Access	Access	Access	Serial
		Device 2 <sup>pro</sup>	Device 2 <sup>next</sup>	Device 3 <sup>+</sup>	RS232
AURIX, TriCore, PowerPC, XE166, XC2000, XMC1000/4500, STM32					
<b>ASC-Bootstrap Loader / ASC</b>		✓	✓		✓ <sup>1</sup>
AURIX, TriCore, PowerPC, XE166, XC2000, XMC1000/4500, STM32					
<b>CAN-Bootstrap Loader</b>		✓	✓		
AURIX, TriCore, PowerPC, XE166, XC2000					
<b>K-Line</b>		✓ <sup>2</sup>	✓ <sup>2</sup>		✓ <sup>2</sup>
AURIX, TriCore, PowerPC, ARM, Cortex, SH-2A, XC2000, RH580					
<b>JTAG/DAP/SWD</b>		✓ <sup>3</sup>	✓ <sup>3</sup>	✓ <sup>3</sup>	
AURIX, TriCore					
<b>DXCPL (DAP over CAN Physical Layer)</b>		✓ <sup>3</sup>	✓ <sup>3</sup>		

1) No additional hardware required 2) External K-Line converter required 3) Ask for supported derivatives and see website <http://www.pls-mc.com>.

## Licensing of the UDE MemTool

For UDE MemTool, one license is required per seat. MemTool for more than one controller architecture requires an architecture upgrade. Other licensing models are available on request, e.g. Department/ Company License or OEM license model. The UDE MemTool license includes a one-year maintenance and support contract, which may be renewed every year. The license includes one custom specific adaptation (product) to a particular target system by PLS Development Tools. Thus, the MemTool Configuration Form' is used to define the specific target system configuration. Using this example, it is simple to create additional MemTool adaptations to other target systems by the customer himself.

With a full-custom MemTool, even more advanced features can be included into MemTool (e.g. integration into automatic production and test systems). Please contact us for specification and quotation.

### If you have any questions about our products, please feel free to contact us:

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