

XRUN Command-Line Manual

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XRUN loads and runs XMOS Executable (XE) files on target hardware. It requires either the XMOS or FTDI USB-to-JTAG drivers to be installed, depending on the adapter used with the target hardware (see [XM-000952-PC](#)).

1 Overall Options

The following options are used to specify an executable to run and, optionally, an xCORE tile on which to run the program.

- xe-file* Specifies an XE file to load and run.
- `--verbose` Prints information about the program loaded onto the target devices.
- `--help` Prints a description of the supported command line options.
- `--version` Displays the version number and copyrights.

2 Target Options

The following options are used to specify a target hardware platform.

- `--list-devices`
- `-l` Prints an enumerated list of all JTAG adapters connected to the host and the devices on each JTAG chain, in the form:

ID	Name	Adapter ID	Devices
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The adapters are ordered by their serial numbers.

- `--list-board-info`
- `-lb` Displays information about the connected target board.
- `--id ID` Specifies the adapter connected to the target hardware.

- `--adapter-id` *ADAPTER-SERIAL-NUMBER*
Specifies the serial number of the adapter connected to the target hardware.
- `--jtag-speed` *n*
Sets the divider for the JTAG clock to *n*. If unspecified, the default value is 0. The maximum value is 70.
For FTDI-based debug adapters, the JTAG clock speed is set to $6/(n+1)$ MHz.
For XMOS-based debug adapters, the JTAG clock speed is set to $25/(n+1)$ MHz.
- `--noreset` Does not reset the XMOS devices on the JTAG scan chain before loading the program. This is not default.

3 Debugging Options

The following options are used to enable debugging capabilities.

- `--io` Causes XRUN to remain attached to the JTAG adapter after loading the program, enabling system calls with the host. XRUN terminates when the program calls `exit`.
By default, XRUN disconnects from the JTAG adapter once the program is loaded.
- `--uart` Enables a UART server that interfaces with the UART-to-USB converter on the XMOS USB-to-JTAG adapters. The converter operates at a rate of 115200 bits/sec.
The USB-to-UART converter on XMOS adapter interfaces with two pins on the XSYS connector that, on XMOS development boards, are connected to ports on an XMOS device. The ports are named in the XN files as `PORT_UART_TX` and `PORT_UART_RX`.
This option is not supported for adapters based on FTDI chips.
- `--attach` Attaches to a JTAG adapter (of a running program), enabling system calls with the host. XRUN terminates when the program performs a call to `exit`.
An XE file must be specified with this option.
- `--dump-state` Prints the core, register and stack contents of all xCORE Tiles in JTAG scan chain.

4 xSCOPE Options

The following options are used to enable xSCOPE capabilities.

- `--xscope` Enables an xSCOPE server with the target.
- `--xscope-realtime` Enables an xSCOPE server with the target using a socket connection.
- `--xscope-file` *filename*
Specifies the filename for xSCOPE data collection.

- `--xscope-port` *ip:port*
Specifies the IP address and port for realtime data capture.
- `--xscope-limit` *limit*
Specifies the record limit for xSCOPE data collection.



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