1 MkProm version 1.2.1 manual

NAME

mkprom

SYNOPSYS

mkprom   [-**baud** *baudrate*] [-**wdog**] [-**nocomp**] [-**noedac**] [-**nopar**] [-**dump**]
[-**freq** *system_clock*] [-**noprot**] [-**o** *filename*] [-**ramsize** *size*] [-**romws** *ws*]
[-**romsize** *size*] [-**ramcs** *chip_selects*] [-**ramws** *ws*] [-**wdfreq** *freq*]
[-**stack** *addr*] *input_files*

DESCRIPTION

The MkProm utility is used to create boot-images for programs compiled with ERC32CCS. It
encapsulates the application in a loader suitable to be placed in a boot prom. The application
is compressed with a modified LZSS algorithm, typically achieving a compression factor of 2.
The loader initiates the system according to the specified parameters. The loader operates in
the following steps:

- The register files of IU and FPU (if present) are washed to initialise register parity bits.
- The MEC control, waitstate and memory configuration registers are set according to the
  specified options.
- The top 32K of the ram is written to initiate the EDAC checksums.
- Part of the loader is moved to the top of ram to speed up operation.
- The remaining ram is written and the application is decompressed and installed.
- The text part of the application is write protected, except the lower 4K where the traptable
  is assumed to reside.
- Finally, the application is started, setting the stack pointer to the top of ram.

OPTIONS

-**baud** baudrate

Set UART A and B baudrate to baudrate. Takes into account the system clock. Default
value is 19200.

- **wdog**

Enables the watchdog. By default, the watchdog is disabled.

- **nocomp**

Don't compress application. Decreases loading time on the expense of rom size.

-**noedac**

Disable EDAC. By default, EDAC and parity checking of the ram is enabled.

-**nopar**

Disable RAM parity checking. Note, never do this if you do have parity on your target
board since it could result in driver collision on the DPARIO line.

-**freq** *system_clock*

Defines the system clock in MHz. This value is used to calculate the divider value for
the baud rate generator and the real-time clock. Default is 10.

-**noprot**

Disable memory write protection. by default, the applications text segment is write-protected against accidental over-write.

- **o** *outfile*

Put the resulting image in *outfile*, rather then prom.out (default).

-**ramsize** *size*

Set the ramsize in the memory configuration register to *size*. The default value is 2048 (2 Mbyte).

-**ramcs** *chip_selects*

Set the number of ram banks to *chip_selects*. Default is 1.

-**ramws** *ws*

Set the number of waitstates during ram writes to *ws*. Default is 0. Ram reads are always zero-waitstate.

-**romsize** *size*

Set the rom size to *size*. Default is 512 (512 Kbyte)

-**romws** *ws*

Set the number of rom waitstates during read to *ws*. Default is 2.

-**stack** addr

Sets the initial stack pointer to *addr*. If not specified, the stack starts at top-of-ram.

-**v**

Be verbose; reports compression statistics and compile commands

-**wdfreq** *freq*

Defines the watchdog clock in MHz. If set, the the watchdog clock is used to generated the UART baudrate.

-**dump**

The intermediate assembly code with the compressed application and the MEC register values is put in `dump.s` (only for debugging of `mkprom`).

input_files

The input files must be in aout format. If more than one file is specified, all files are loaded by the loader and control is transferred to the first segment of the first file.