



User Information

RightMark CPU Clock Utility (RMClock)

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Power Saving Tool for EKF CompactPCI® CPU Cards

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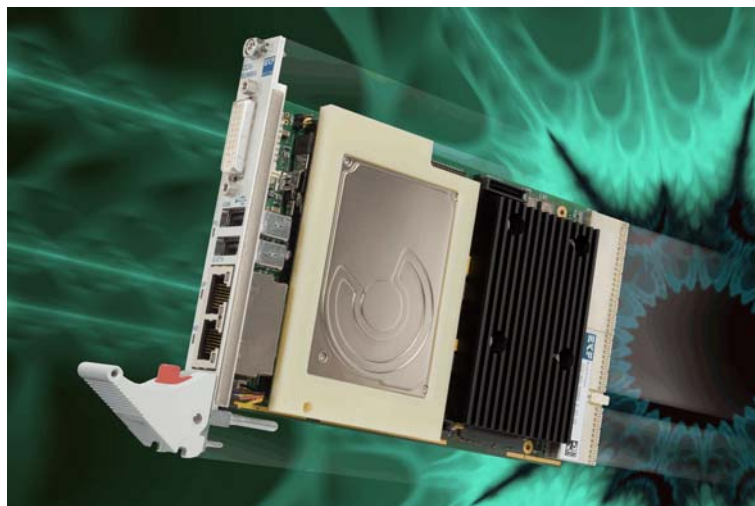
'RightMark CPU Clock Utility (RMClock) is a small GUI application designed for real-time CPU frequency, throttling and load level monitoring and on-the-fly adjustment of the CPU performance level on supported CPU models via processor's power management model-specific registers (MSRs). In automatic management mode it continuously monitors the CPU usage level and dynamically adjusts the CPU frequency, throttle and/or voltage level as needed, realizing the "Performance on Demand" concept.'

The RMClock Utility (Windows) is available for download at:
<http://cpu.rightmark.org/download.shtml>.

Basic RMClock version is available free of charge for personal non-commercial use and for non-profit organizations. No registration or activation is required. For information concerning licensing schemes for commercial use (for-profit organizations), please contact develop@rightmark.org.

When RMClock is used together with EKF CPU boards, considerable savings in power consumption can be achieved, resulting in a significant lower average CPU chip temperature.

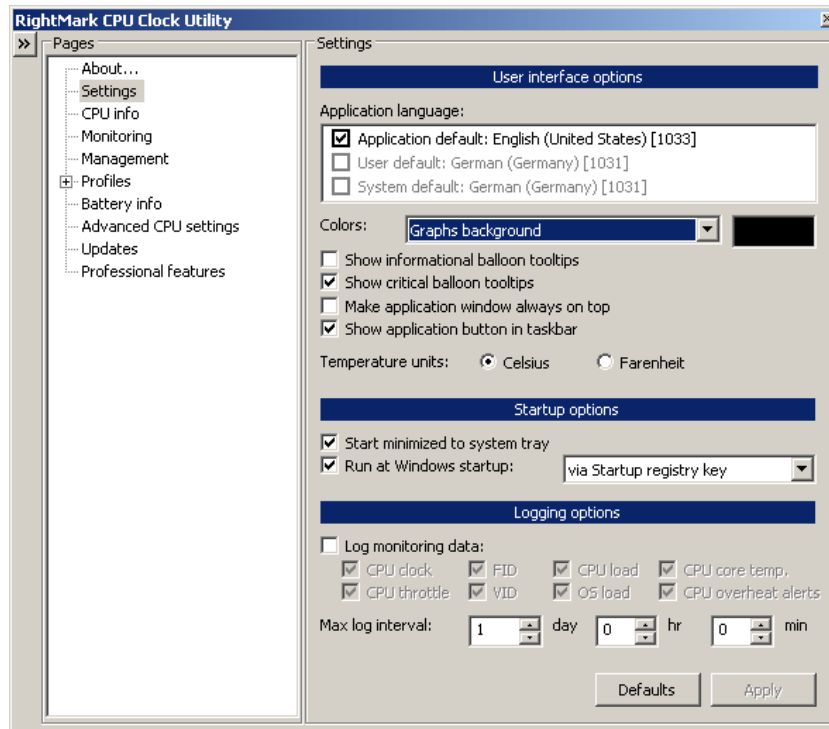
Below you will find some screenshots which may be helpful in optimizing your RMClock adjustments.



Cool Runnings

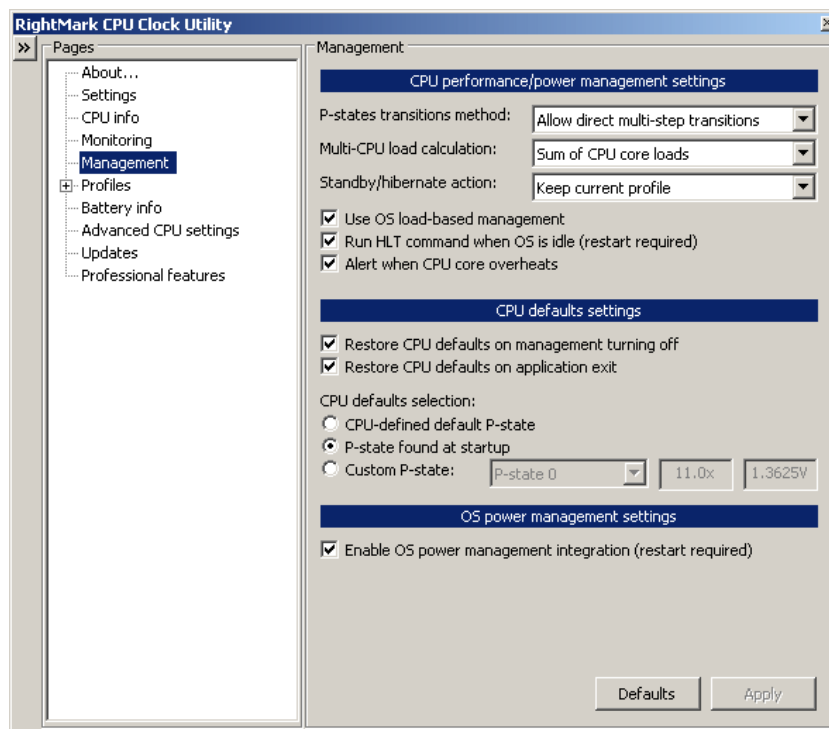
1. Settings

Observe RMClock has been setup for 'Run at Windows startup'.



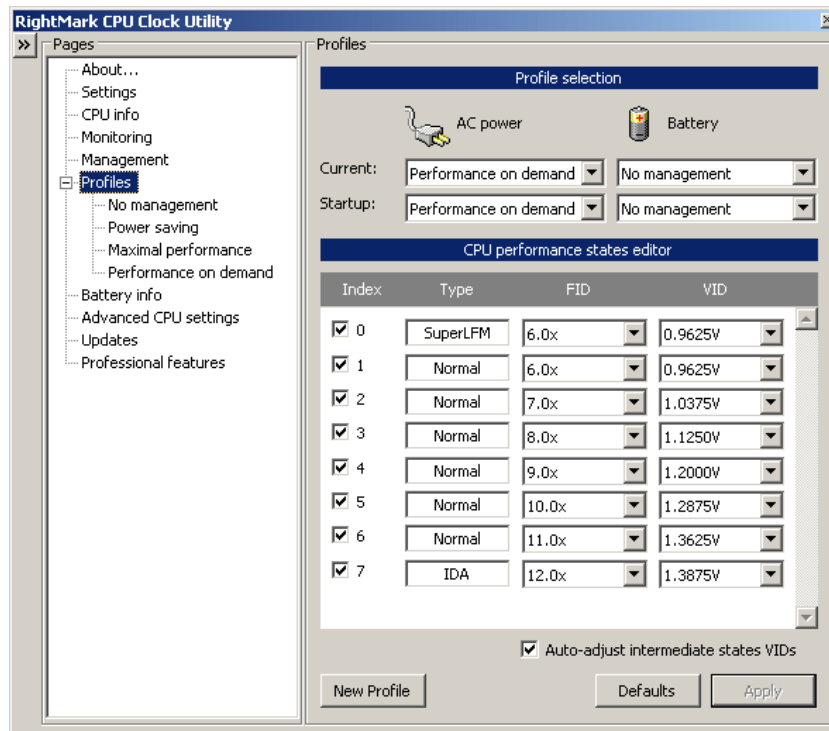
2. Management

P-states transitions method: 'Allow direct multi-step transitions'. Activate checkbox 'Run HLT command when OS is idle'.



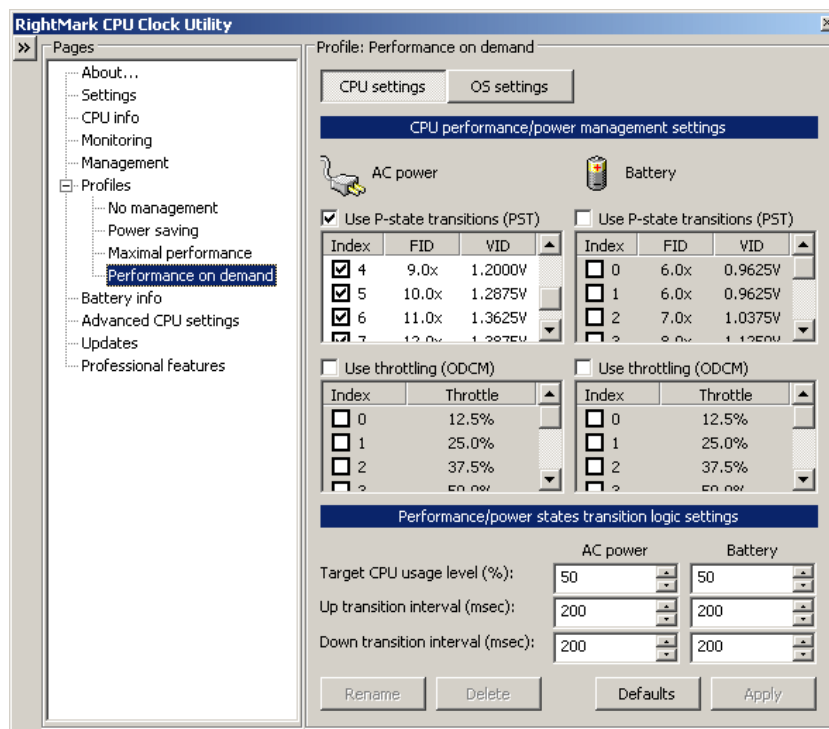
3. Profiles

AC Power → 'Performance on demand'. Activate checkboxes below 'Index'. Verify multiplier values below 'FID', and setup lowest voltage below 'VID' for Index 0 while checkbox 'Auto-adjust intermediate states' is filled - other values will be set automatically.



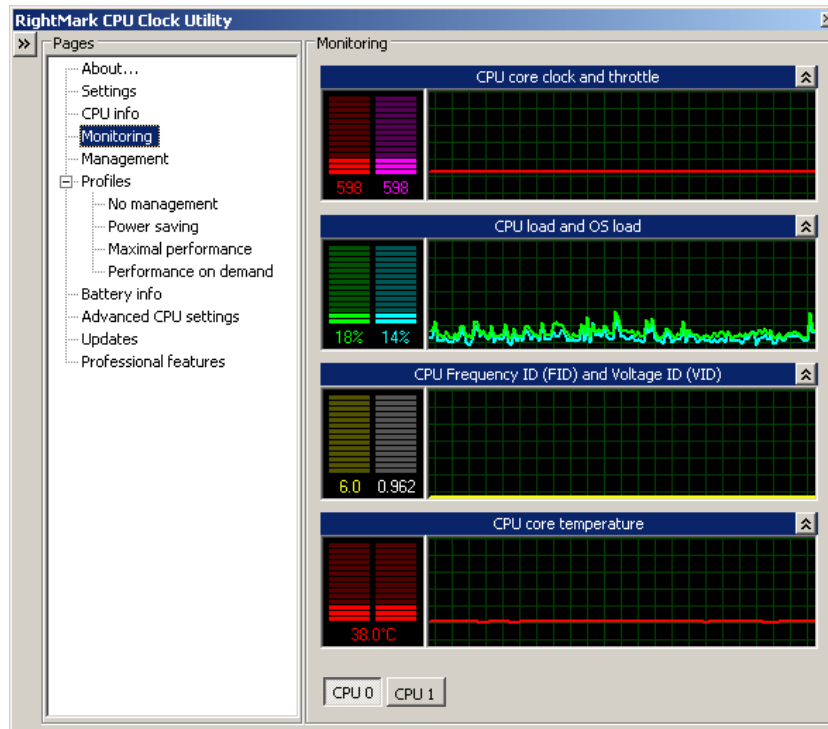
4. Profiles/Performance on demand

Activate checkbox 'Use P-state transitions'. Activate checkboxes below 'Index'.



5. Monitoring

At moderate load, the CPU core temperature should be considerably lower than w/o RMClock.



Please note: Although successfully tested with several EKF CPU boards and configurations, EKF can accept no responsibility for any potential misbehaviour caused by the use of RMClock. Manual core voltage settings may fall below the limits specified by Intel for a particular processor. For critical applications, EKF recommends to strictly adhere to the Intel specifications.

boards. systems. solutions.

