

## Important Product Notice

### Affecting Supported Loop Times in Certain RMC75S and RMC75P Controllers

February 18, 2009

#### Purpose of this Notice

Recent testing at Delta found that certain RMC75S and RMC75P motion controller configurations have performance limitations. As a result, Delta can no longer support certain loop times for certain configurations of these controllers. This document describes which controllers are affected, and what to do if your controller is affected.

#### Which Controllers are Affected?

Whether your controller is affected by this notice depends on the CPU model and revision, number of axes, and loop time you are using. Use the following chart to determine if your controller is affected:

CPU	Axes	Loop Time	Effect
<b>RMC75P</b> (2.1E or older)	1*	500us	No longer supported. See below.
		1ms, 2ms, 4ms	Not affected.
	2	500us, 1ms	No longer supported. See below.
		2ms, 4ms	Not affected.
<b>RMC75P</b> (2.1F or newer)	1*	all	Not affected.
	2	500us	No longer supported. See below.
		1ms, 2ms, 4ms	Not affected.
<b>RMC75S</b>	1*	all	Not affected.
	2	500us	No longer supported. See below.
		1ms, 2ms, 4ms	Not affected.
<b>RMC75E</b>	any	all	Not affected.
<b>RMC150E</b>	any	all	Not affected.

\* For the purposes of this chart, a single-axis controller includes 1 control axis with up to 1 reference input axis. Notice that a dual-loop axis such as a Position-Pressure/Force axis is considered a single control axis.

To determine the revision of your RMC75P, refer to the label on the side of the controller. The CPU model, serial number, and revision are listed. If the revision does not have a letter, then the letter is implied to be A. For example, 2.1 is the same as 2.1A, and therefore older than 2.1F.

## What Do I Do If My Controller Is Affected?

If your controller is using a loop time that will no longer be supported, then you have several options.

- **Increase your loop time.**

Some applications may be using a lower loop time than necessary. In these applications, raising your loop time to a supported loop time for your CPU and axis configuration will avoid the problem.

- **Update your older RMC75P CPU.**

If your controller has an RMC75P CPU, revision 2.1E or older, then you are eligible for a no-charge upgrade to a current RMC75P CPU. This will remove all restrictions on the 1ms loop time, and allow the 500us loop time for single-axis controllers. Contact Delta or your distributor for information on upgrading your unit.

- **Continue using the unsupported loop time.**

For all supported loop times, Delta has verified that the controller will not exceed the loop time in any circumstance. However, this is not guaranteed with unsupported loop times. Therefore, Delta does not recommend that you continue using an unsupported loop time, since exceeding the loop time can lead to unexpected controller behavior.

However, we understand that you may not want to change an existing application known to be operating correctly. Therefore, you have the following options for continuing to use an unsupported loop time.

- **Do not upgrade to 3.31.0 or newer firmware.**

In order to avoid causing problems with existing systems, RMCTools enforces the new loop time restrictions only for firmware 3.31.0 or newer. Therefore, if you have an existing system with pre-3.31.0 firmware, then this system will continue to operate as it did previously.

- **Obtain an RMCTools Unlock Code from Delta.**

This option will allow you to use the latest firmware revisions with your unit, but will not prevent you from selecting an unsupported loop time. Because we discourage using unsupported loop times, we have locked this feature by default.

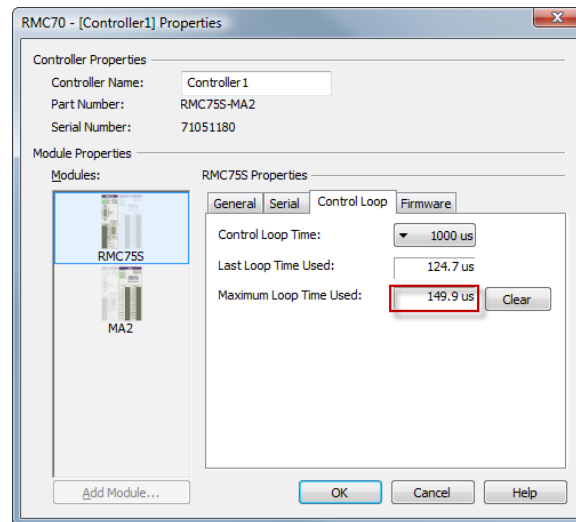
If you decide to use an unsupported loop time, then you must take precautions to ensure that your controller is not exceeding the selected loop time in your application, since Delta does not guarantee this loop time can be met in all circumstances.

Here is how you can check if your unit is currently exceeding its loop time:

- **Check the Maximum Loop Time Used value.**

The RMC controller records the longest time required to complete the motion loop since the RMC was last powered up. This value is called the Maximum Loop Time Used and should never exceed your selected loop time for any operation your machine performs.

This value can be viewed in RMCTools in the Controller Properties dialog box:



- **Check for Loop Time Exceeded Errors.**

With firmware 3.30.4 and newer, the controller will log each time the loop time is exceeded. The log entry looks like this:

Time	Event	Details
00:00:01.000	❌ Loop time exceeded.	Loop Time: 1000.0us, Used: 1015.0us

Therefore, by reviewing the Event Log throughout your application cycle, you can determine whether your controller is exceeding its loop time, and if so, how often.

If you find that your controller is exceeding its loop time, please contact Delta technical support to discuss alternatives.

Should your situation require a replacement, Delta will send you the proper replacement in a timely manner. We sincerely hope this change is not a significant inconvenience and appreciate your understanding and patience in regard to this matter.

If you have any further questions or concerns, please contact us by sending an e-mail to [support@deltamotion.com](mailto:support@deltamotion.com) or call 360/254-8688.