



BREATHING LIFE INTO MACHINES

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Product: Motion Coordinator MC206
Serial No.: P135-00026 to P135-00595
Subject: Potential SRAM fault

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Technical Bulletin

1. Background:

An investigation into a small number of reported failures has shown that there is a potential problem with a batch of SRAM that has been used in the build of MC206's. The serial numbers of units that are affected are shown above.

2. Details:

The fault typically shows itself as a compile error when a program is selected at power up or when editing programs. Usually one of the programs will be corrupted when it is moved in memory.

A small number of locations (typically 2 to 4) in the memory have single bits stuck at 0 or 1. If one of these locations is used by the application programs and the stuck bit is the opposite state to that set by the software then an error will occur. In the cases investigated the faults all occurred in similar regions in the memory.

Table with memory addresses (0, 32, 64, 96K, 128K, 160K, 192K, 224K, 256K) and labels (SYSTEM USE, FAULTS FOUND IN THIS AREA, TABLE).

The suspect SRAM device can be identified as U28 on the MC206 PCB. The part number is IS62LV2568LL-70H and the date codes are 0040 and 0049. All MC206

Motion Coordinators with Serial numbers P135-00596 and above are not affected because they are manufactured with Samsung SRAM parts.

### **3. Identifying the fault:**

The symptoms are very specific:

After the BASIC Project is loaded and stored into EPROM, the sequence on power-up is that the programs are copied into RAM, compiled and then run. If the Ram has a stuck bit, the program will consistently have an error at the same line number OR the compiled program will not run.

A SRAM test is now included in the system software and any errors are reported on power-up. Install system software version 1.61 Dev 19 or higher to use the automatic RAM check.

There are some other reasons for the RAM becoming corrupted, so before contacting Trio about this problem, please check the following;

1. If the programs compile correctly and run from Motion Perfect but do not run on power-up, check that there are no unused programs that cannot be compiled. The presence of these will prevent the controller from auto-running at power-up.
2. If the controller cannot auto-run and Motion Perfect cannot connect, check to see if the programs are corrupted by typing "dir" from the MP2 terminal. Programs can become corrupted if, when powering up from RAM, the power is removed during the compile phase.
3. If you have loaded a program that was originally used on another Motion Coordinator, check that none of your local variables are now used as keywords. For example PORT, GLOBAL, CONSTANT etc. These can be identified because they will appear in CAPITALS.

### **4. How to remedy the fault:**

The units that could be affected were shipped from Trio between 25 July 2001 and 27 August 2002. They have serial numbers between P135-00026 and P135-00595.

If an MC206 is found to be exhibiting symptoms of this problem it can be verified by updating the system software to 1.6119 or higher and checking the startup message in a terminal window. If there is a memory error it will be reported. The only fix is to replace the SRAM, so the unit should be returned to Trio for repair.