



# APPLICATION NOTE

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**Product Family: Productivity 3000**

**Number: AN-P3-001**

**Subject: ASCII communication differences  
before and after V1.0.9.23**

**Date Issued: 5-18-2012**

**Revision: Original**

## ASCII OUT Instruction Change

### **Issue:**

There was a change made to the way the ASCII Out instruction in the P3000 handles data between firmware 1.0.9.23 to 1.0.10.20.

In 1.0.9.23 the ASCII Out instruction could buffer data.

In 1.0.10.20 this was changed so the ASCII Out cannot buffer data to avoid buffer overflow issues and unexpected data being sent.

### **Result:**

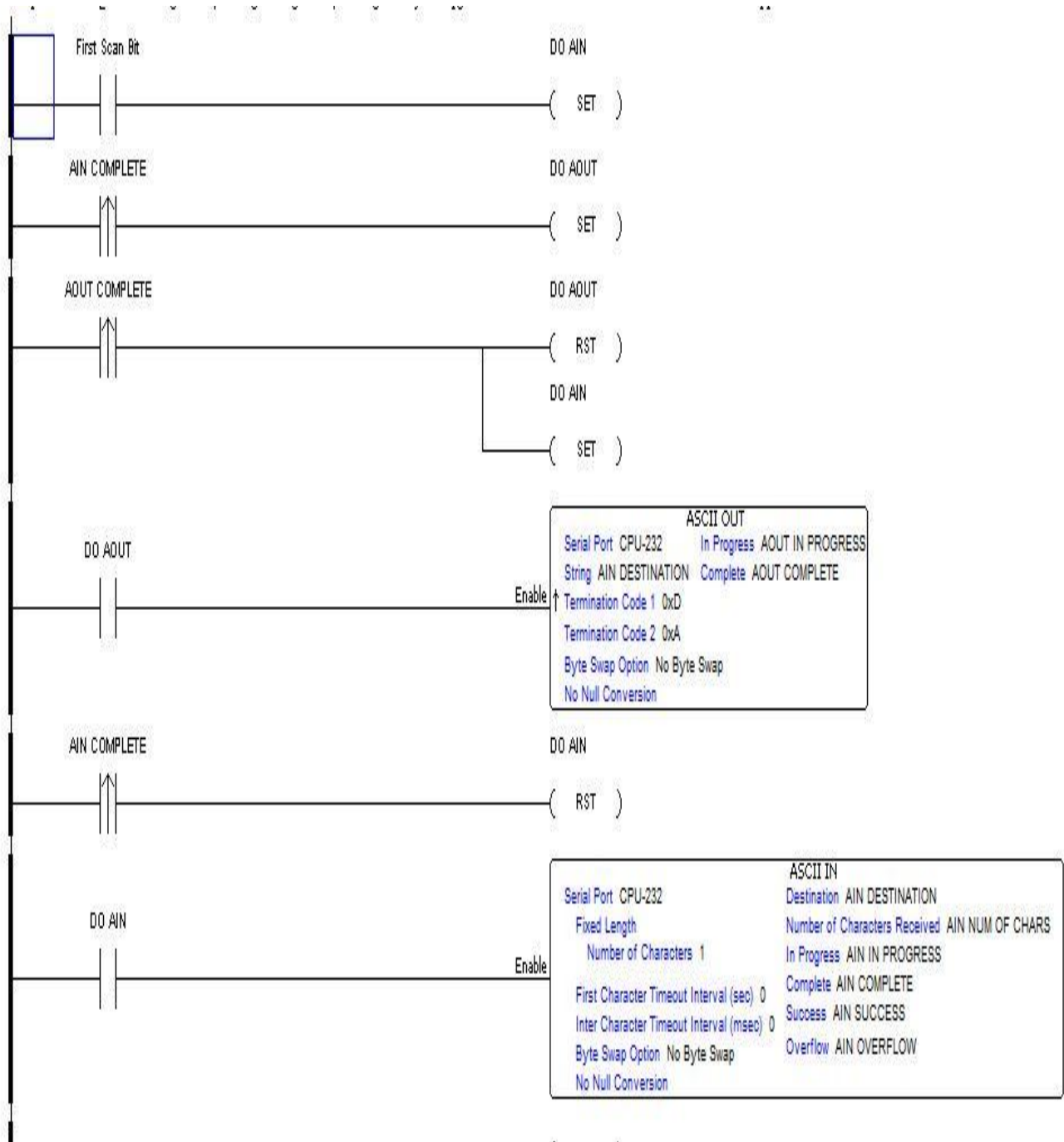
Because of this behavior the ASCII In and ASCII Out could both be enabled in the same program scan and the ASCII Out would buffer the data until a scan was made and the ASCII In was not enabled and data would be sent. Therefore it was not required to interlock the ASCII In and ASCII Out instructions. This was ok unless it was several scans until the ASCII In was not enabled and then it would result in buffer or data issues. In the new firmware the ASCII In and ASCII Out instruction must be interlocked to avoid them being enabled on the same program scan since the ASCII Out can no longer buffer data. If they are not interlocked and the ASCII In is always active the ASCII Out will never send data.



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This example logic will work with firmware 1.0.9.23, but not firmware starting with 1.0.10.20:

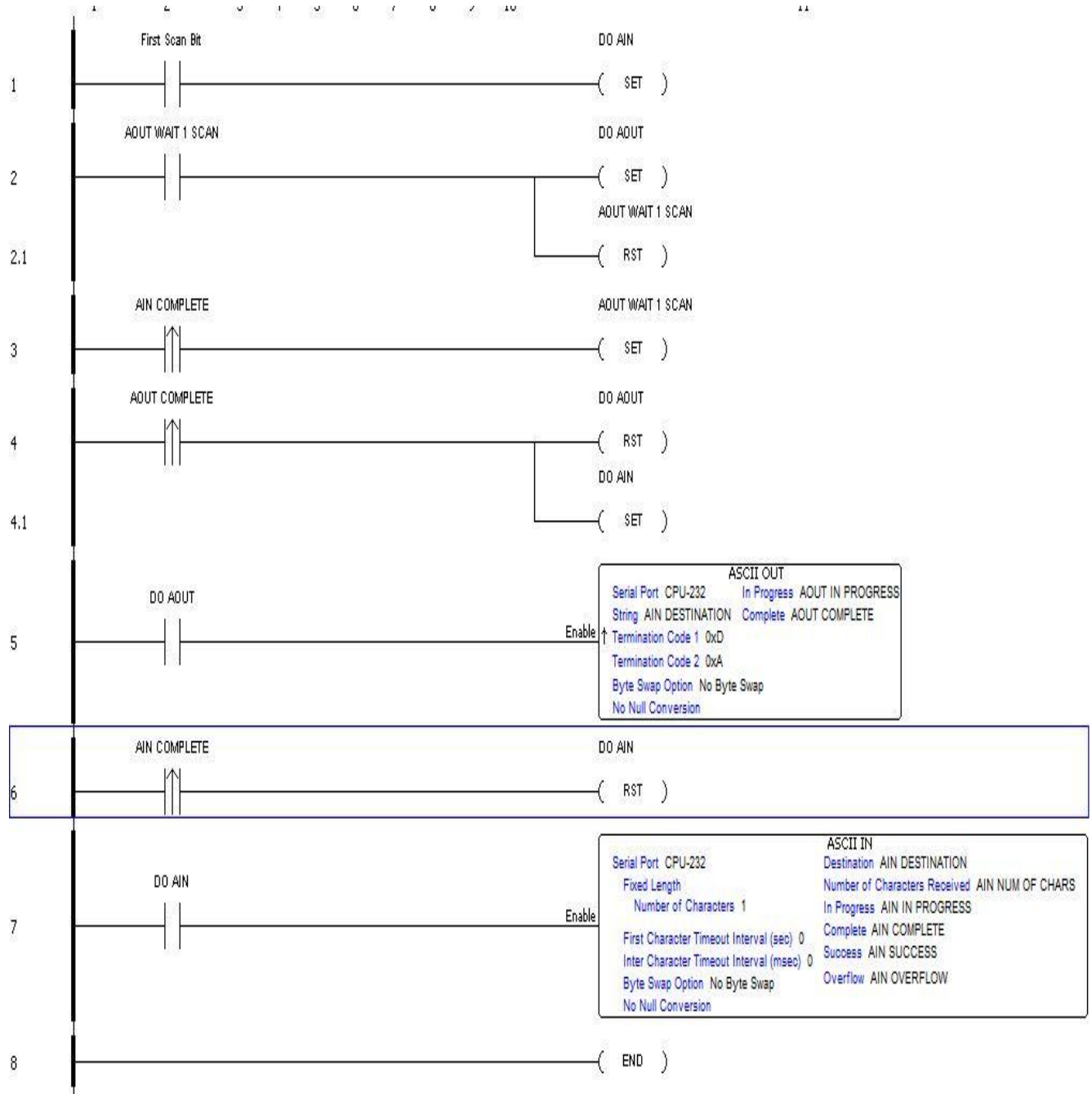




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This Logic will work with any firmware:





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**The key to the instructions working after the firmware change is the ASCII In and ASCII Out instructions must be programmed not to be enabled on the same scan.**

#### **Technical**

**Assistance:** If you have questions regarding this Application Note, please contact us at 770-844-4200 for further assistance.