The Application Note is pertinent to the Mentor II / Quantum III Drive Family

**Independent Jog Accel & Decel Ramps**

When using the jog function to index a machine into position, it is often desirable to have a smooth accel and quick decel control once the desired position is reached. The Quantum III has a myriad of accel and decel rates for a run reference but has only one overall Jog Accel/Decel rate. If you need a separate Jog Accel and a Jog Decel rate the following configuration changes can provide you with this functionality. This scheme uses set #2 of the Run Accel/Decel Rates during the Jog period instead of the singular Jog Rate. The time delay programmed by parameter #9.12 maintains the selection of these rates for 2 seconds after the Jog command is removed. Otherwise the rate selector would switch immediately to Accel/Decel set #1. This time can be adjusted to accommodate jog decel rates greater than 2 seconds. This delay just needs to be slightly greater than the Jog decel rate set into #2.09 or #2.11.

**Programming for Separate Accel and Decel Jog Rates**

<table>
<thead>
<tr>
<th>Parameter Number</th>
<th>Change Value to</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.07</td>
<td>113</td>
<td>Look at the Jog Command with AND gate input #1</td>
</tr>
<tr>
<td>9.09</td>
<td>111</td>
<td>Look at the Drive Ref On with AND gate input #2</td>
</tr>
<tr>
<td>9.11</td>
<td>1</td>
<td>Invert this result</td>
</tr>
<tr>
<td>9.12</td>
<td>2</td>
<td>Sustain this result for 2 seconds following a Jog command</td>
</tr>
<tr>
<td>8.20</td>
<td>218</td>
<td>Direct this result to Run Accel/Decel Rates Bank Selector</td>
</tr>
<tr>
<td>8.30</td>
<td>1</td>
<td>Invert F10 Input (TB3-30)</td>
</tr>
<tr>
<td>2.13</td>
<td>0</td>
<td>Disable the Normal Jog Ramp Rate</td>
</tr>
<tr>
<td>2.08</td>
<td>1-1999</td>
<td>Set to Desired Jog Fwd Accel Ramp Rate ie. 10=1 second</td>
</tr>
<tr>
<td>2.09</td>
<td>1-1999</td>
<td>Set to Desired Jog Fwd Decel Ramp Rate ie. 5=0.5 seconds</td>
</tr>
<tr>
<td>2.10</td>
<td>1-1999 *</td>
<td>Set to Desired Jog Rev Decel Ramp Rate ie. 5=0.5s second</td>
</tr>
<tr>
<td>2.11</td>
<td>1-1999 *</td>
<td>Set to Desired Jog Rev Accel Ramp Rate ie. 10=1 second</td>
</tr>
</tbody>
</table>

Install a Jumper wire between TB2-15 (ST1 Logic Resultant) and TB3-30 ( F10 input ) on the MDA2 or MDA2B interface board terminal strip.
**Jog Command**

- Jog Command: Invert output 09.11:1
- 2 second delay

**Run Command**

- Run Command: Source 1 select 09.07:113
- Source 1 invert 09.08:0
- Status output 09.01:0
- Status source selector
- Status input
- Source 2 invert 09.10:0
- Delay
- Status output 09.12:2
- ST3

**External Wire Pin 15 to pin 30 on MDA2 board**

- External Wire Pin 15 to pin 30 on MDA2 board: Invert
- Direct this result to control the accel/decel bank control switch #2.18

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CTA: 08.20 F10 sdestination URW 216 Change Detail
Reverse assumes use with a Regen Drive Model

**Note:**

Fast Jog Deceleration implies the use of a Regen Drive Model (part number 9500-86xx). With Non-Regenerative models (w/Part Numbers 950-83xx) the decel rate is a function of the machine load/friction. If a fast jog decel is needed in this instance (with a non-regen drive), one should most likely consider the application of a Dynamic Braking Resistor.

For DB Resistor Information click below:

[DB Resistor Info](#)

Questions ?? Ask the Author:

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