# MCA Market Results - Full Summary

## Sales Volumes
1st Quarter 2013 results as reported (See Page 2):
- Total Reported Orders: $607.6 Million
- Total Reported Shipments: $696.3 Million

## Sales Growth
Adjusted sales growth figures (1st Quarter 2013 over 4th Quarter 2012 in percent) (See Page 2):
- Total Reported Orders: -3.1% (Reflects a $1.6 Million decrease from 4th Quarter 2012)
- Total Reported Shipments: -3.2% (Reflects a $18.1 Million decrease from 4th Quarter 2012)

## Regional Distribution of Sales
Most reported sales in 1st Quarter 2013 were North American. (See Pages 3 and 4.)
- Total Reported Orders: 78.0% (North America)
- Total Reported Shipments: 75.3% (North America)

## Sales by Product Category
The largest product category is Motors (36.7% of Shipments, 34.8% of Orders), followed by Electronic Drives (20.8% of Shipments, 18.8% of Orders). Motors and Electronic Drives have consistently been the largest product categories. (See pie charts on Page 4.)

## Comments
1) 1st Quarter 2013 Orders and Shipments were down from the previous quarter. Most companies expect Orders and Shipments to remain flat in the next two quarters, based on Sentiment Scores. (See Sentiment Scores on Page 5.)
2) Estimated size of total world shipments for 1st Quarter 2013: $3,277.8 Million.
3) Number of companies reporting: 25 (Orders) and 27 (Shipments)
4) European and Asian percentages are probably higher than reported. (Most participating companies submit North American results.)
5) PLC sales are not zero; data are not available for a sufficient number of companies.
6) Book to bill ratios are based only on data from companies submitting data for both orders and shipments (and not total orders and shipments as reported on Page 2). Note: Orders are divided by Shipments to calculate book to bill ratios, a change from some previous reports. See Page 6 for details.
7) Growth rates in this report are current quarter over previous quarter and reflect an adjustment for changes in the reporting mix of companies.

**REPORT FORMAT IS OPTIMIZED FOR COLOR PRINTING**
### Motion Controllers
- Includes: industrial controls, machine controls, programmable controllers, industrial PCs
- Revenue: $25,282,614
- Orders: 5.4%
- Shipments: 6.7%
- Book to Bill: 1.062

### Electronic Drives (Amplifiers)
- Includes: DC drives, AC & DC brushless drives, multi-axis drives and stopper
- Revenue: $114,398,762
- Orders: -3.4%
- Shipments: -3.6%
- Book to Bill: 1.044

### AC Drives
- Includes: inverter drives, vector drives, AC adjustable speed drives
- Revenue: $84,788,924
- Orders: 4.7%
- Shipments: 0.0%
- Book to Bill: 1.015

### Motors
- Includes: DC brushed motors, AC & DC brushless motors, servomotors with gearing mounted, direct drive, linear motors, stoppers
- Revenue: $211,700,737
- Orders: -4.9%
- Shipments: -0.4%
- Book to Bill: 0.972

### AC Motors
- Includes: inverter, vector, variable reluctance
- Revenue: $2,879,158
- Orders: -13.6%
- Shipments: -21.1%
- Book to Bill: 1.004

### Actuators & Mechanical Systems
- Includes: Mechanical drivers, gearboxes (component), belt-drivers, rod & midless actuators, ball screws, acme, roller screws actuators
- Revenue: $102,702,332
- Orders: -10.9%
- Shipments: -14.6%
- Book to Bill: 1.014

### Sensors and Feedback Devices
- Includes: sensors & switches, encoders & resolvers and hall sensors
- Revenue: $26,766,011
- Orders: 14.6%
- Shipments: 2.7%
- Book to Bill: 1.078

### Other Ancillary Components
- Includes: cable track, cables, enclosures, network and field bus technology, safety products, light curtains, guarding, HMI panels, power supplies (logic back-up)
- Revenue: $29,064,963
- Orders: -7.0%
- Shipments: -4.6%
- Book to Bill: 0.981

### Support & Services
- Includes: assessment services, asset management services, condition monitoring, network services, on-site support services, phone support services, remote monitoring & diagnostic services, repair services and renewal parts, training services
- Revenue: $9,988,831
- Orders: 32.5%
- Shipments: 22.0%
- Book to Bill: 0.831

### Total Market (Reported)
- Revenue: $607,572,332
- Orders: -3.1%
- Shipments: -3.2%
- Book to Bill: 1.003

**No. of Companies Reporting: 25**

**Adjusted**
# MCA Market Results - Full Summary

<table>
<thead>
<tr>
<th>Product Category</th>
<th>Orders</th>
<th>Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motion Controllers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Includes: industrial controls, machine controls, programmable controllers, industrial PCs)</td>
<td>81.9% 11.8% 4.8% 1.4% 100.0%</td>
<td>78.3% 15.5% 4.8% 1.4% 100.0%</td>
</tr>
<tr>
<td><strong>PLCs</strong></td>
<td>0.0% 0.0% 0.0% 0.0% 0.0%</td>
<td>0.0% 0.0% 0.0% 0.0% 0.0%</td>
</tr>
<tr>
<td><strong>Electronic Drives (Amplifiers)</strong></td>
<td>74.9% 15.1% 8.2% 1.8% 100.0%</td>
<td>68.6% 20.6% 8.4% 2.4% 100.0%</td>
</tr>
<tr>
<td>(Includes: DC drives, AC &amp; DC brushless drives, multi-axis drives and stepper)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AC Drives</strong></td>
<td>84.4% 8.2% 4.4% 2.9% 100.0%</td>
<td>84.4% 8.2% 4.4% 3.0% 100.0%</td>
</tr>
<tr>
<td>(Includes: inverter drives, vector drives, AC adjustable speed drives)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Motors</strong></td>
<td>77.8% 11.4% 7.4% 3.4% 100.0%</td>
<td>75.8% 12.7% 7.2% 4.3% 100.0%</td>
</tr>
<tr>
<td>(Includes: DC brush motors, AC &amp; DC brushless motors, servomotors with gear mounted, direct drive, linear motors, steppers)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AC Motors</strong></td>
<td>69.7% 9.2% 20.0% 1.0% 100.0%</td>
<td>69.8% 9.2% 20.0% 0.9% 100.0%</td>
</tr>
<tr>
<td>(Includes: inverter, vector, variable reluctance)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuators &amp; Mechanical Systems</strong></td>
<td>77.9% 11.8% 10.0% 0.3% 100.0%</td>
<td>76.3% 14.2% 8.8% 0.6% 100.0%</td>
</tr>
<tr>
<td>(Includes: Mechanical drivers, Gearboxes (component), belt-drives, rod &amp; rodless actuators, ball screws, acme, roller screws actuators)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sensors and Feedback Devices</strong></td>
<td>64.4% 18.6% 16.3% 0.7% 100.0%</td>
<td>64.0% 18.4% 16.7% 0.9% 100.0%</td>
</tr>
<tr>
<td>(Includes: sensors &amp; switches, encoders &amp; resolvers and hall sensors)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Ancillary Components</strong></td>
<td>83.8% 11.7% 3.0% 1.5% 100.0%</td>
<td>80.3% 14.7% 3.2% 1.8% 100.0%</td>
</tr>
<tr>
<td>Includes: cable track, cables, enclosures, network and field bus technology, safety products, light curtains, guarding, HMI panels, power supplies (logic back-up)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Support &amp; Services</strong></td>
<td>75.1% 18.6% 5.7% 0.5% 100.0%</td>
<td>75.3% 18.4% 5.7% 0.5% 100.0%</td>
</tr>
<tr>
<td>(Includes: assessment services, asset management services, condition monitoring, network services, on-site support services, phone support services, remote monitoring &amp; diagnostic services, repair services and renewal parts, training services)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL MARKET (REPORTED)</strong></td>
<td>78.0% 12.2% 7.7% 2.2% 100.0%</td>
<td>75.3% 14.5% 7.4% 2.7% 100.0%</td>
</tr>
</tbody>
</table>

**Weighted Average Percentage**
## MCA Market Results - Full Summary

### Total Market - Orders (As Reported) ($ Million)

<table>
<thead>
<tr>
<th>Year</th>
<th>1Q 11</th>
<th>2Q 11</th>
<th>3Q 11</th>
<th>4Q 11</th>
<th>1Q 12</th>
<th>2Q 12</th>
<th>3Q 12</th>
<th>4Q 12</th>
<th>1Q 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>$674.6</td>
<td>$657.9</td>
<td>$599.2</td>
<td>$672.5</td>
<td>$615.3</td>
<td>$580.3</td>
<td>$626.8</td>
<td>$607.6</td>
<td>$697.9</td>
</tr>
</tbody>
</table>

### Total Market - Shipments (As Reported) ($ Million)

<table>
<thead>
<tr>
<th>Year</th>
<th>1Q 11</th>
<th>2Q 11</th>
<th>3Q 11</th>
<th>4Q 11</th>
<th>1Q 12</th>
<th>2Q 12</th>
<th>3Q 12</th>
<th>4Q 12</th>
<th>1Q 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>$597.9</td>
<td>$747.7</td>
<td>$725.4</td>
<td>$773.5</td>
<td>$747.8</td>
<td>$744.4</td>
<td>$761.0</td>
<td>$769.6</td>
<td>$763.3</td>
</tr>
</tbody>
</table>

### Regional Distribution of Orders

- North America: 78.0%
- Europe: 12.2%
- Asia: 7.7%
- Rest of World: 2.2%

### Regional Distribution of Shipments

- North America: 75.3%
- Europe: 14.5%
- Asia: 7.4%
- Rest of World: 2.7%

### Distribution of Orders by Category

- Motion Controllers: 4.2%
- Sensors & FD: 4.4%
- Motors: 34.8%
- AC Drives: 14.0%
- Electronic Drives: 18.8%
- Actuators & MS: 16.9%
- AC Motors: 0.5%
- Ancillary Components: 4.8%
- Support Service: 1.6%

### Distribution of Shipments by Category

- Motion Controllers: 3.5%
- Sensors & FD: 3.6%
- Motors: 36.7%
- AC Drives: 12.0%
- Electronic Drives: 20.8%
- Actuators & MS: 14.9%
- AC Motors: 0.4%
- Ancillary Components: 6.3%
- Support Service: 1.7%
### MCA Market Results - Sentiment Scores

**Industry Predictions Re: Market Growth for Next 2 Quarters**

*Note: Company Sentiment Scores are Weighted by Relative Size of Company*

<table>
<thead>
<tr>
<th></th>
<th>Orders</th>
<th></th>
<th></th>
<th>Shipments</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Higher</td>
<td>Lower</td>
<td>Flat</td>
<td>Higher</td>
<td>Lower</td>
<td>Flat</td>
</tr>
<tr>
<td><strong>Motion Controllers</strong></td>
<td>57%</td>
<td>0%</td>
<td>43%</td>
<td>55%</td>
<td>0%</td>
<td>45%</td>
</tr>
<tr>
<td>(Includes: industrial controls, machine controls, programmable controllers, industrial PCs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PLCs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Electronic Drives (Amplifiers)</strong></td>
<td>3%</td>
<td>0%</td>
<td>97%</td>
<td>3%</td>
<td>0%</td>
<td>97%</td>
</tr>
<tr>
<td>(Includes: DC drives, AC &amp; DC brushless drives, multi-axis drives and stepper)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AC Drives</strong></td>
<td>65%</td>
<td>0%</td>
<td>35%</td>
<td>66%</td>
<td>0%</td>
<td>34%</td>
</tr>
<tr>
<td>(Includes: inverter drives, vector drives, AC adjustable speed drives)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Motors</strong></td>
<td>23%</td>
<td>0%</td>
<td>77%</td>
<td>14%</td>
<td>0%</td>
<td>86%</td>
</tr>
<tr>
<td>(Includes: DC brushed motors, AC &amp; DC brushless motors, servomotors with gearing mounted, direct drive, linear motors, steppers)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AC Motors</strong></td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>(Includes: Inverter, vector, variable reluctance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Actuators &amp; Mechanical Systems</strong></td>
<td>14%</td>
<td>4%</td>
<td>82%</td>
<td>10%</td>
<td>0%</td>
<td>90%</td>
</tr>
<tr>
<td>(Includes: Mechanical drivers, Gearboxes (component), belt-drivers, rod &amp; rodless actuators, ball screws, acme, roller screws actuators)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sensors and Feedback Devices</strong></td>
<td>10%</td>
<td>0%</td>
<td>90%</td>
<td>10%</td>
<td>0%</td>
<td>90%</td>
</tr>
<tr>
<td>(Includes: sensors &amp; switches, encoders &amp; resolvers and hall sensors)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Ancillary Components</strong></td>
<td>4%</td>
<td>0%</td>
<td>96%</td>
<td>3%</td>
<td>0%</td>
<td>97%</td>
</tr>
<tr>
<td>(Includes: cable track, cables, enclosures, network and field bus technology, safety products, light curtains, guarding, HMI panels, power supplies (logic back-up))</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Support &amp; Services</strong></td>
<td>13%</td>
<td>0%</td>
<td>87%</td>
<td>28%</td>
<td>0%</td>
<td>72%</td>
</tr>
<tr>
<td>(Includes: assessment services, asset management services, condition monitoring, network services, on-site support services, phone support services, remote monitoring &amp; diagnostic services, repair services and renewal parts, training services)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL MARKET (REPORTED)</strong></td>
<td>23%</td>
<td>1%</td>
<td>75%</td>
<td>18%</td>
<td>0%</td>
<td>82%</td>
</tr>
</tbody>
</table>

**Comments**

Most companies expect orders and shipments to remain flat.
MCA Market Results - Full Summary

Methodological Notes

Growth Rate Calculation

Growth rates contained in this report are current quarter over previous quarter.

These growth rates are adjusted for changes in the mix of reporting companies between the current and previous quarter for sake of greater accuracy.

For example, assume the following companies reported data for the current and previous quarters:

<table>
<thead>
<tr>
<th>Companies</th>
<th>Current Quarter</th>
<th>Previous Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>&quot;B&quot;</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>&quot;C&quot;</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>&quot;D&quot;</td>
<td>X</td>
<td>(Data not reported)</td>
</tr>
</tbody>
</table>

In this example, growth rates would be based only on the companies that reported data for both quarters; that is, companies "A", "B" and "C" and not "D". Inclusion of company "D" would overstate the growth rate for the current quarter. Thus, excluding "D" from the calculation yields greater accuracy.

Book to Bill Ratio Calculation

Book to bill ratios show the relationship between orders and shipments. This ratio tells whether the company has more orders than it can deliver (if greater than 1), has the same amount of orders that it can deliver (equals 1), or has less orders than it can deliver (under 1). A book-to-bill ratio of above 1 indicates a strong market where demand outpaces supply. Similarly, a book-to-bill ratio of below 1 points to weaker demand.

Change in Calculation

They are calculated by dividing orders by shipments using data only from companies that report both orders and shipments. NOTE: This calculation has been changed from previous reports to match the calculation in the semi-conductor industry. Users of this report preferring the earlier definition (shipments divided by orders) can simply take the inverse of the reported ratios by dividing 1.0 by those ratios.

Need for Adjustment

If book to bill ratios were calculated on total reported orders and total reported shipments without excluding companies that reported only orders or only shipments, serious distortions would result. Thus, for sake of accuracy calculations are based only on the aggregated data of companies reporting both order and shipment data.