



North American
ISSUE NO. 5
VOLUME 1Q04
March 2004

In This Issue

Two new contributing subscribers join "Switch Tracks". They are Grayhill and NKK.

This issue is the first to cover DIP, keylock, push button, rocker, slide, tact, toggle, as well as, snap action switches.

Keeping in contact with the industry news.

Section	Page
Market Overview	1
DIP	5
Keylock	14
Push button	20
Rocker	31
Slide	41
Snap Action	51
Tact	62
Toggle	68
Industry News	77
Appendix	90

Growth Continues and More Planned For 2004

Two new contributing manufacturers and seven new switch types are represented in this issue. The new contributors are Grayhill and NKK. The new switch types are DIP, push button, rocker, slide, tact, and toggle. Sales and booking information for all of CY 2003 is included in this report.

Plans for the future include adding European and Asian editions of "Switch Tracks". This year will also bring the addition of two new annual reports. One will cover end-user market segmentation and the other will analyze sales channels and territories. Please contact Cumulus for further information.

Market Overview: Total Switch Sales and Bookings for CY 2003

Total reported sales for all switch types in North America are \$XXXXX M and XXXXX M units with an overall average selling price (ASP) of \$XXXX per switch. The companies reporting sales for CY2003 are APEM, Cherry Electrical Products, Grayhill, Honeywell Sensing and Control, ITT Cannon C&K, Marquardt, NKK, Omron Electronics, Saia-Burgess, and Tyco. The switch types they reported on are component DIP, keylock, push button, rocker, slide, snap action, tact, and toggle switches. Appendix "A" defines which switch families are included by type, subcategory, and contributing subscriber.

The total North American DIP, keylock, push button, slide, snap action, tact and toggle switch market is estimated at \$XXXXX M and XXXXXM units. The reported sales and estimated total market size for each switch type is listed in the table below.

Total Estimated CY 2003 Market For Switch Types Reported

	DIP	Keylock	Push Button	Rocker	Slide	Snap Action	Tact	Toggle
Estimated Total Market	\$ XXX M	\$ XXX M	\$ XXX M	\$ XXXM	\$ XXX M	\$ XXX M	\$ XXX M	\$ XXX M
Reported Sales	\$ XXX M	\$ XXX M	\$ XXX M	\$ XXX M	\$ XXX M	\$ XXX M	\$ XXX M	\$ XXX M
% of Market Reported	XX %	XX %	XX %	XX %	XX %	XX %	XX %	XX %

The rocker switch segment is under reported with XX % of the estimated market being reported and a threshold of XX%. The data submitted for rockers switches will be reported in this issue. Based on input from current contributing subscribers, future reporting on this switch type may be postponed until additional rocker switch manufacturers become subscribers.

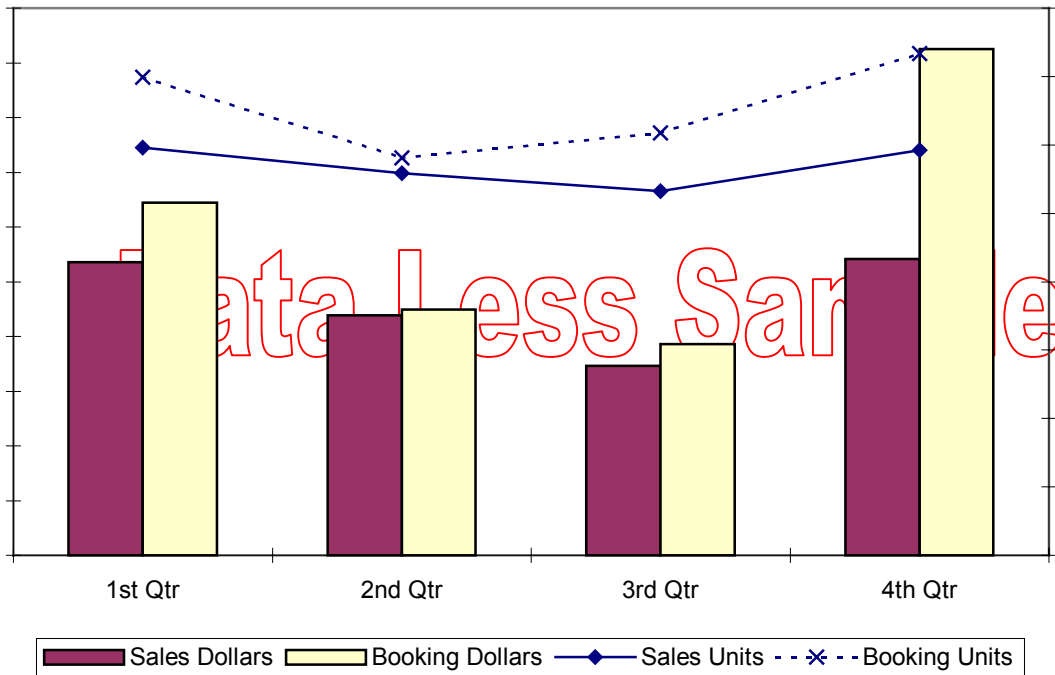
This report focuses on the switch types reported by contributing manufacturers. There are additional switch types, such as, keyswitch, rotary, thumbwheel/pushwheel, and trigger that are not yet included. The graph below shows estimated percent share by type based on the estimates above.

Data Less Sample

Total reported bookings for the CY 2003 are \$XXXX and XXXX M units with an overall average booking price (ABP) of \$XXXX. Booking dollars and units were great than sales by XX% and XXX%. This resulted in a XX% lower ABP versus the overall ASP and indicating a downward pressure on pricing.

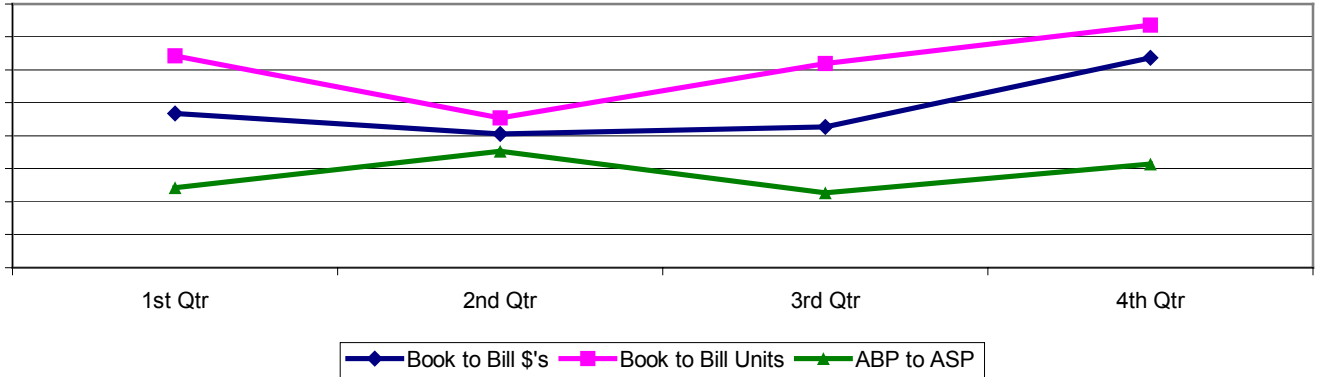
The graph below shows total quarterly sales and bookings in dollars and units for the reported data. All measures showed decline through the first three quarters and then recovered in the fourth quarter. Booking dollars increased XX% to \$ XXXX M from \$XXXX M in the third quarter and sales dollars increased a less robust XX% to \$ XXXX M in the fourth quarter.

**CY 2003 Total DIP, Keylock, Push Button, Rocker, Slide, Snap Action, Tact, & Toggle
Reported Switch Sales & Bookings**



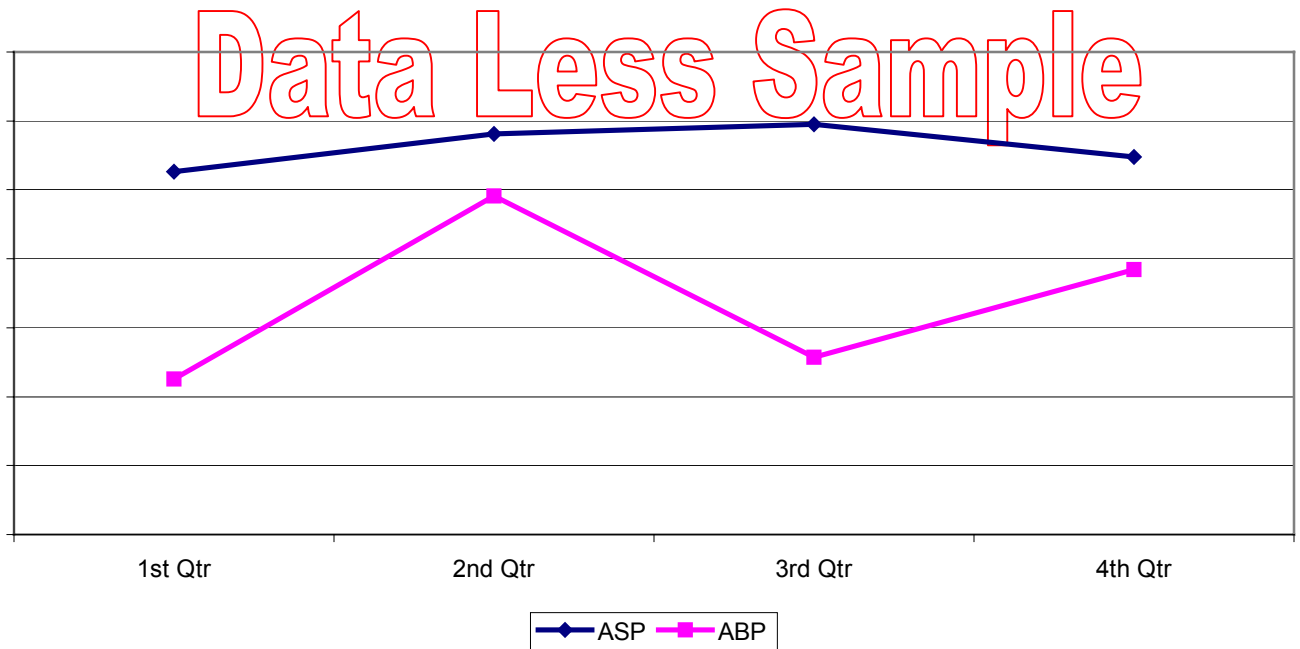
Booking dollars and units stayed above or equal to sales in each quarter. This resulted in book-to-bill ratios at or above one as shown below. The large increase in bookings in the fourth quarter drove both book-to-bill dollars and unit above XXX. The ratio of ABP to ASP approached XXX in the second quarter and then fell in the third and gained back some ground in the fourth quarter.

**CY 2003 Ratios for Total DIP, Keylock, Push Button, Rocker, Slide, Snap Action, Tact, & Toggle
Reported Switch Market**



Selling prices rose through in the second and third quarter. Then returned close to the first quarter level. Booking prices stayed below selling prices and generally rose through the year.

**CY 2003 Prices for Total DIP, Keylock, Push Button, Rocker, Slide, Snap Action, Tact, & Toggle
Reported Switch Market**



The two tables below show the breakdown of total reported sales and bookings for CY 2003 by switch type.

Total Reported CY 2003 Sales by Type

Category	Dollars	Units	ASP
DIP	\$ XXXXM	XXXX M	\$ XXXX
Keylock	\$ XXXX M	XXXX M	\$ XXXX
Push Button	\$ XXXX M	XXXX M	\$ XXXX
Rocker	\$XXXX M	XXXX M	\$ XXXX
Slide	\$ XXXX M	XXXX M	\$ XXXX
Snap Action	\$ XXXX M	XXXX M	\$ XXXX
Tact	\$ XXXX M	XXXX M	\$ XXXX
Toggle	\$XXXX M	XXXX M	\$ XXXX
Total	\$ XXXX M	XXXX M	\$ XXXX

Total Reported CY 2003 Bookings by Type

Category	Dollars	Units	ABP
DIP	\$ XXXX M	XXXX M	\$ XXXX
Keylock	\$ XXXX M	XXXX M	\$ XXXX
Push Button	\$ XXXX M	XXXX M	\$ XXXX
Rocker	\$ XXXX M	XXXX M	\$ XXXX
Slide	\$ XXXX M	XXXX M	\$ XXXX
Snap Action	\$ XXXX M	XXXX M	\$ XXXX
Tact	\$ XXXX M	XXXX M	\$ XXXX
Toggle	\$ XXXX M	XXXX M	\$ XXXX
Total	\$ XXXX M	XXXX M	\$ XXXX

Data Loss Sample

Sales and bookings are reported by type and sub category. The detail of this and the resulting book-to-bill and ABP-to-ASP ratios will be reported in the following sections.

DIP Switch Sales and Bookings for CY 2003

Total reported sales for DIP switches are \$ XXXX M and XXXX M units with an overall ASP of \$XXXX per switch. The companies reporting sales for CY2003 are APEM, Grayhill, ITT Cannon C&K, NKK, Omron, and Tyco. Based on the sales of these manufacturers and estimates for those not yet reporting the total North American DIP switch market is estimated at \$ XXXX M and XXXX M units. Total reported bookings for the same period are \$ XXXX M and XXXX M units with an overall ABP of \$XXXX. Total booking dollars are XX% greater than sales with booking units XX% above sales yielding a XX% higher ABP versus ASP.

Sales and bookings are reported by category and quarter for CY 2003. The detail of this and the resulting book-to-bill and ABP-to-ASP ratios are listed at the end of this section. DIP switches are divided into three subcategories. These are rotary, half-pitch, and standard. Appendix "A" lists each contributing manufacturer and where each of their DIP switch families have been placed.

The two tables below show the breakdown of total reported sales and bookings for CY 2003 by subcategory:

Sales by Category

Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ASP
Rotary	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Half-Pitch	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX

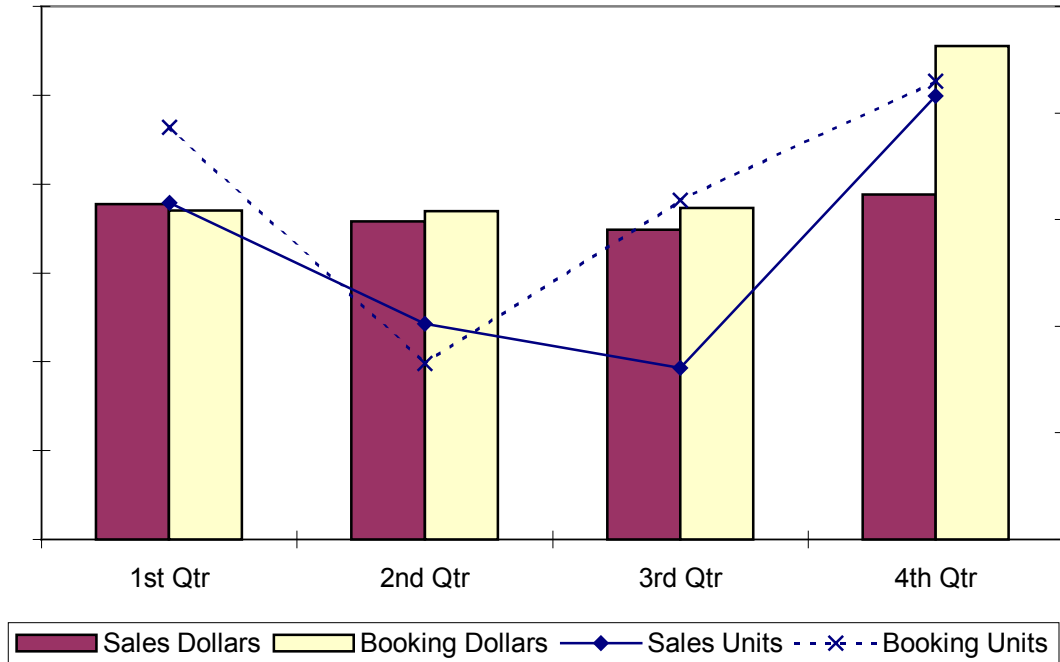
Bookings by Category

Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ABP
Rotary	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Half-Pitch	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX

Data Less Sample

The chart below shows the sales and bookings in units and dollars for the reported total DIP switch market in CY 2003.

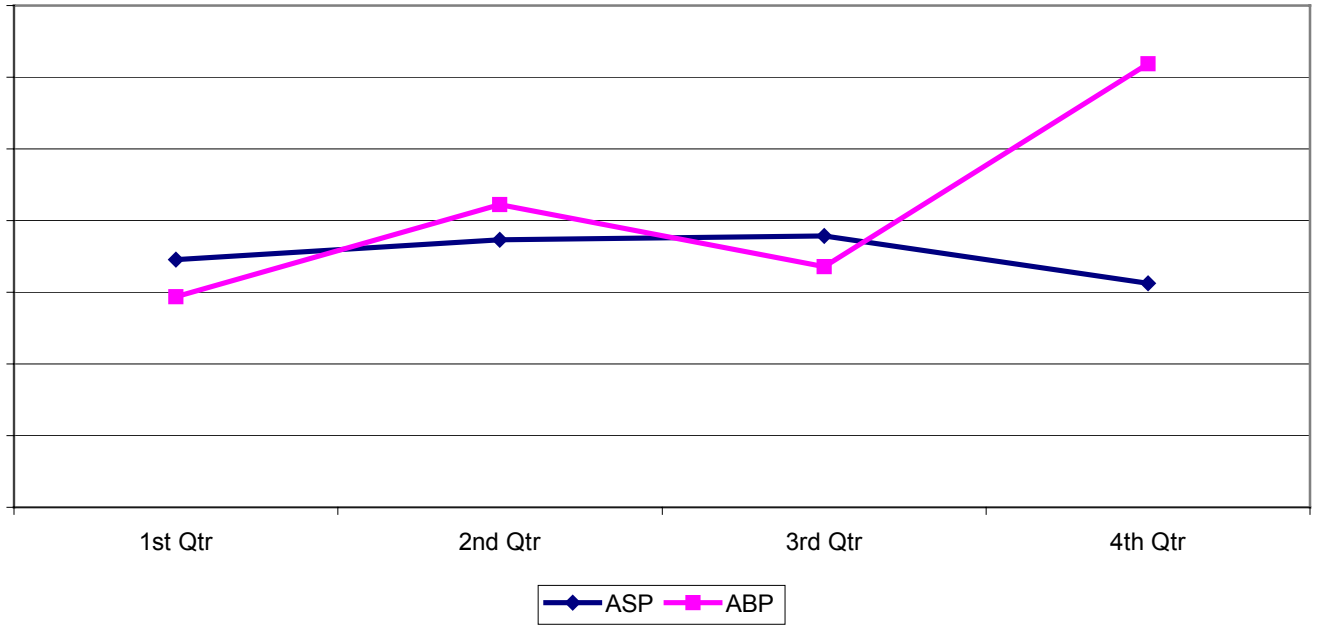
CY 2003 Total DIP Switch Sales & Bookings



Total sales dollars for DIP switches remained fairly constant through CY 2003. Booking dollars did the same until the fourth quarter when bookings jumped XX% higher than the third quarter. Sales units dropped to be XX% lower in the third versus the first quarter. Then recovered to their highest level in the fourth quarter. Booking units followed a similar path, but bottomed out in the second instead of the third quarter.

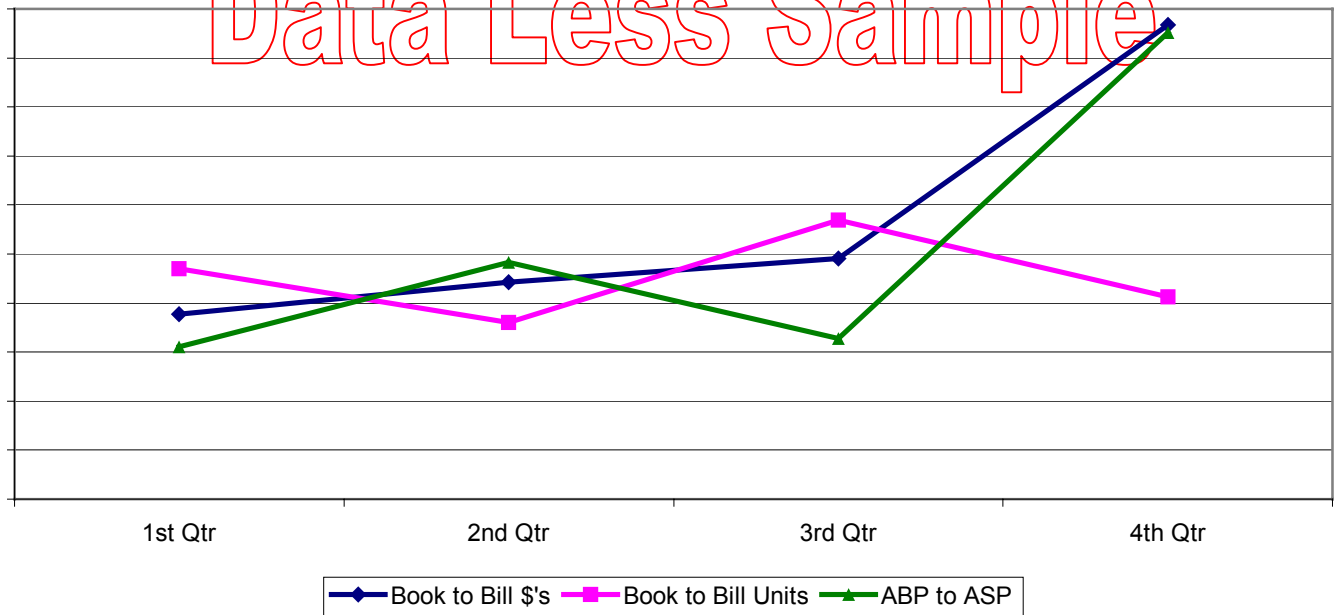
The graphs below show the resulting ASP and ABP, and, ratios by quarter of CY 2003 for the total reported DIP business. The ASP continued along without much variation. The ABP spiked up in the fourth quarter with the sharp increase in booking dollars and a less significant jump in booking units. The same dynamic drove the book-to-bill dollars and ABP-to-ASP ratios higher in the fourth quarter.

CY 2003 Prices for Total DIP Switch Market



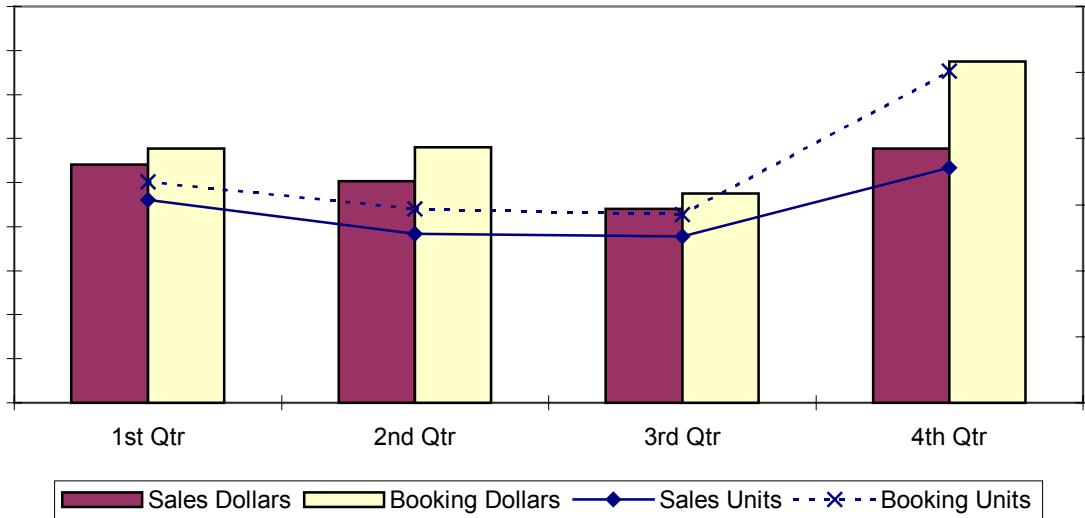
CY 2003 Ratios for Total Slide Switch Market

Data Less Sample

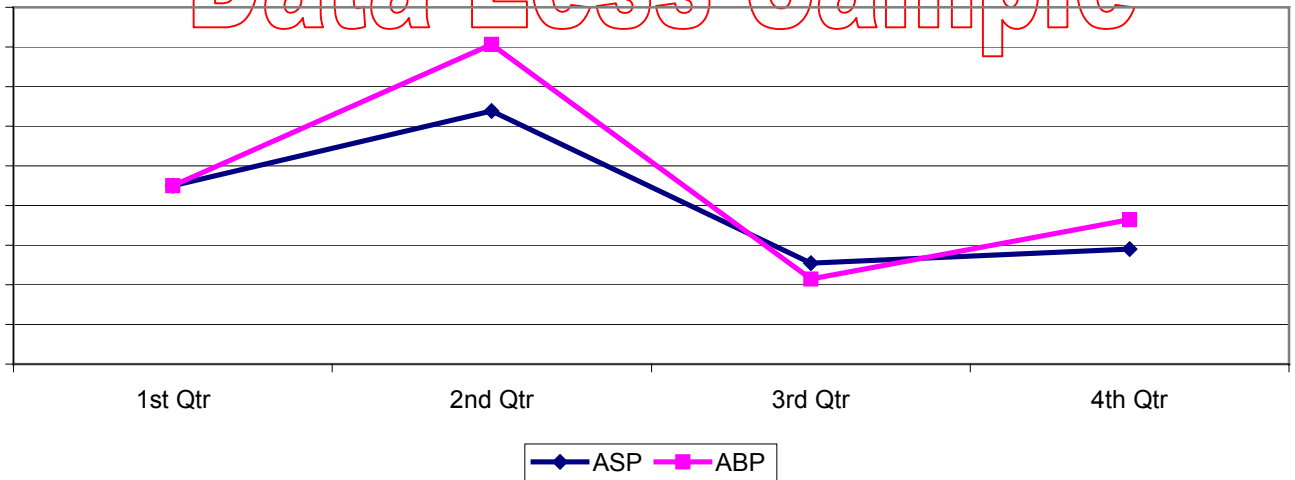


The following graphs will show quarterly performance of each subcategory of DIP switch. Rotary DIP switches sales and bookings general declined through the third quarter and came back in the fourth. Pricing varied but ended only slightly in lower CY 2003

CY 2003 Total Rotary DIP Switch Sales & Bookings

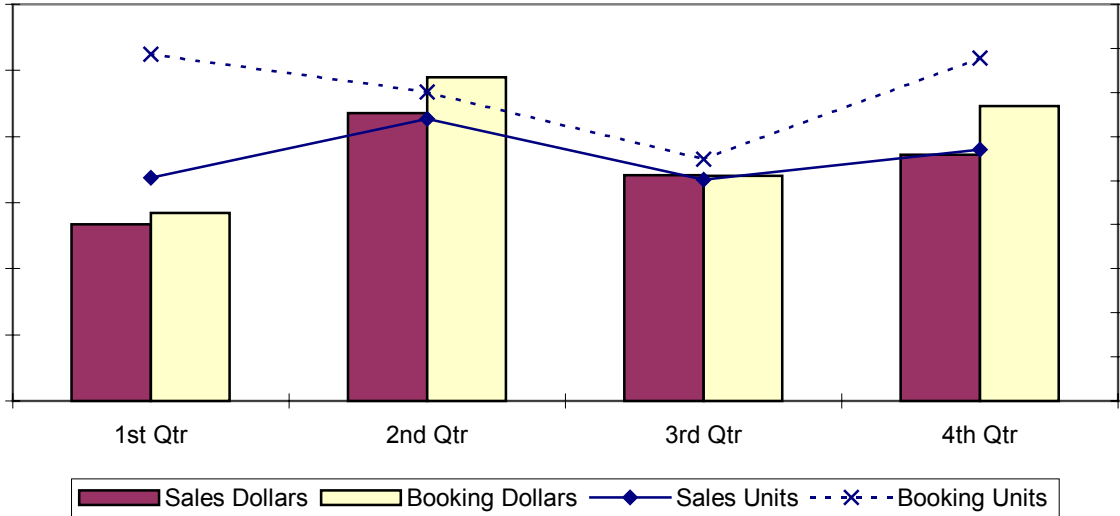


CY 2003 Rotary DIP Switch Prices
Data Less Sample

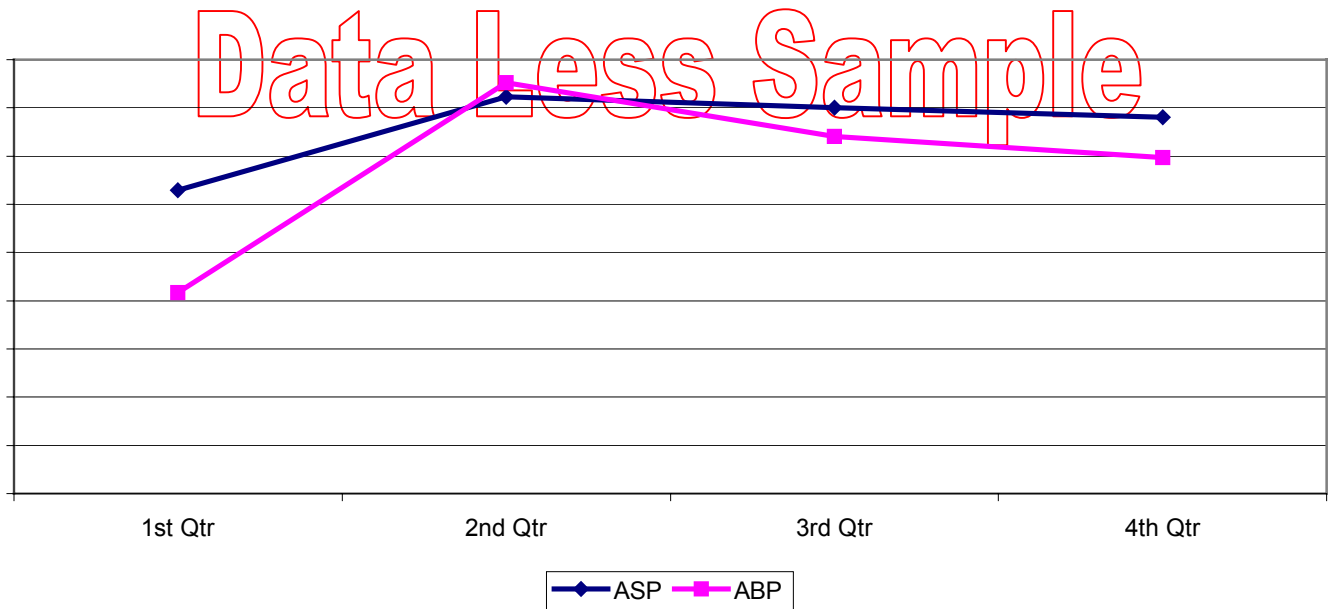


Half-pitch DIP switches sales and bookings dollars tracked together last year. They reached a peak in the second quarter and ended the year higher than they started. Selling and booking prices increased nicely after the first quarter and held the gain for the balance of the year.

CY 2003 Total Half-Pitch Switch Sales & Bookings

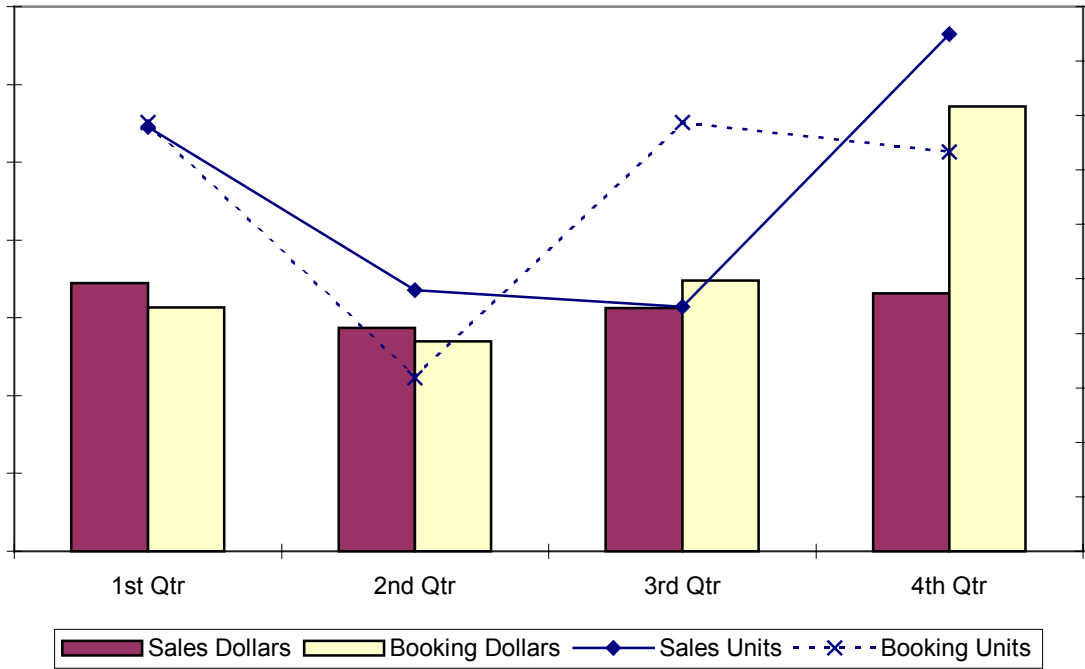


CY 2003 Half-Pitch DIP Prices



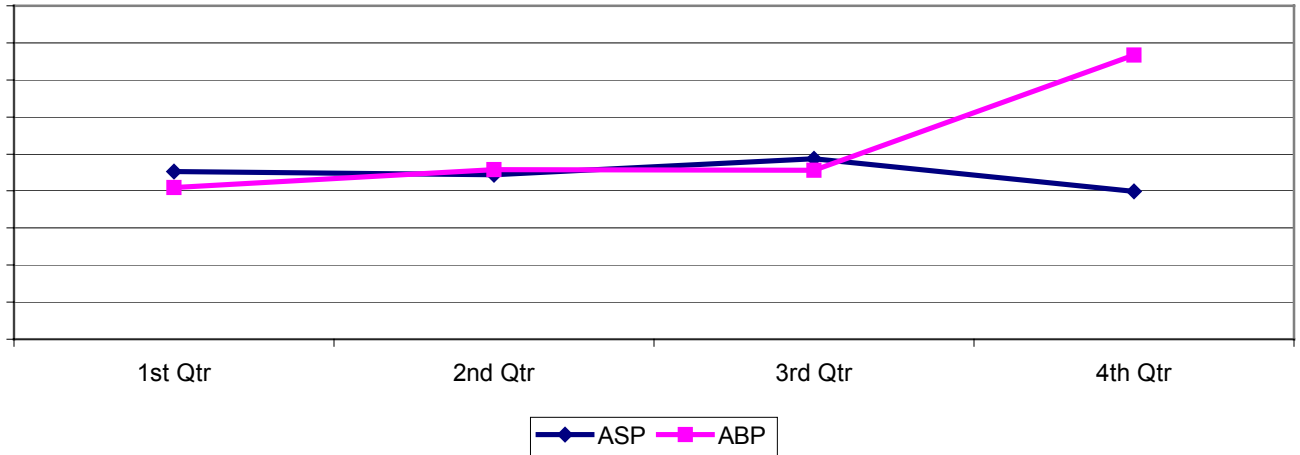
Standard is the largest DIP switch subcategory. Sales dollars were steady and units increased at the end of the year driving the ASP down slightly. Bookings dollars, units, and prices rose in the second half of the year.

CY 2003 Total Standard DIP Switch Sales & Bookings



Data Less Sample

CY 2003 Standard DIP Switch Prices



CY 2003 Total Reported DIP Switch Data

<u>Sales</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Rotary					
Sales Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Sales Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Half-Pitch					
Sales Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Sales Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard					
Sales Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Sales Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Sales Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Sales Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Data Less Sample

CY 2003 Total Reported DIP Switch Data

<u>Bookings</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Rotary					
Booking Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Booking Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Half-Pitch					
Booking Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Booking Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard					
Booking Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Booking Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Booking Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Booking Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Data Less Sample

<u>Ratios</u>	CY 2003 Total Reported DIP Switch Data				
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2002 Total
Rotary					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Half-Pitch					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Standard					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Total					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX

Data Less Sample

Keylock Switch Sales and Bookings for CY 2003

Total reported sales for keylock switches are \$ XXXX M and XXXX M units with an overall ASP of \$ XXXX per switch. The companies reporting sales for CY 2003 are APEM, Grayhill, Honeywell, ITT Cannon C&K, NKK, Omron, SAIA-Burgess, and Tyco. Based on the sales of these manufacturers and estimates for those not yet reporting the total North American keylock switch market is estimated at \$XXXX M and XXXX M units. Total reported bookings for the same period are \$XXXX M and XXXX M units with an overall ABP of \$ XXXX. Total booking dollars and units exceed sales by roughly XX% and resulted in a near equal ASP and ABP.

Sales and bookings are reported by category and quarter for CY 2003. The detail of this and the resulting book-to-bill and ABP-to-ASP ratios are listed at the end of this section. Keylock switches are divided into two product subcategories. These are miniature and standard/industrial. Appendix "A" lists each contributing manufacturer and where each of their keylock switch families are categorized.

The two tables below show the breakdown of total reported sales and bookings for CY 2003 by category:

Sales by Category

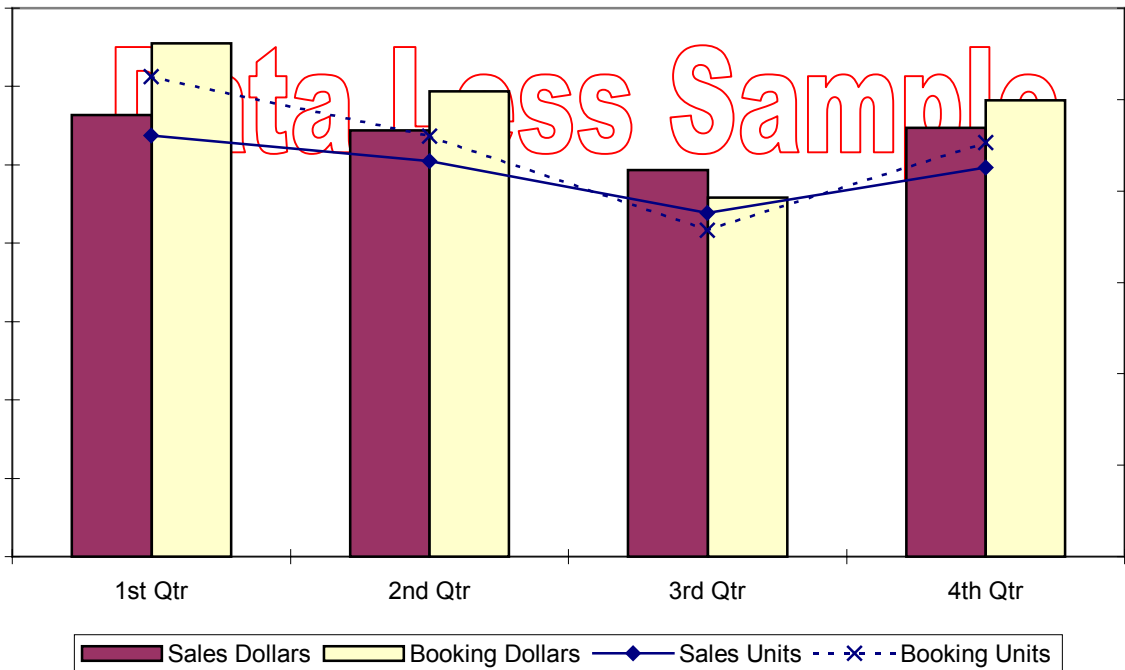
Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ASP
Miniature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX%	XXXX M	XXX%	\$ XXXX

Bookings by Category

Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ABP
Miniature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX%	XXXX M	XXX%	\$ XXXX

The chart below shows the sales and bookings in units and dollars for the reported total keylock market in CY 2003.

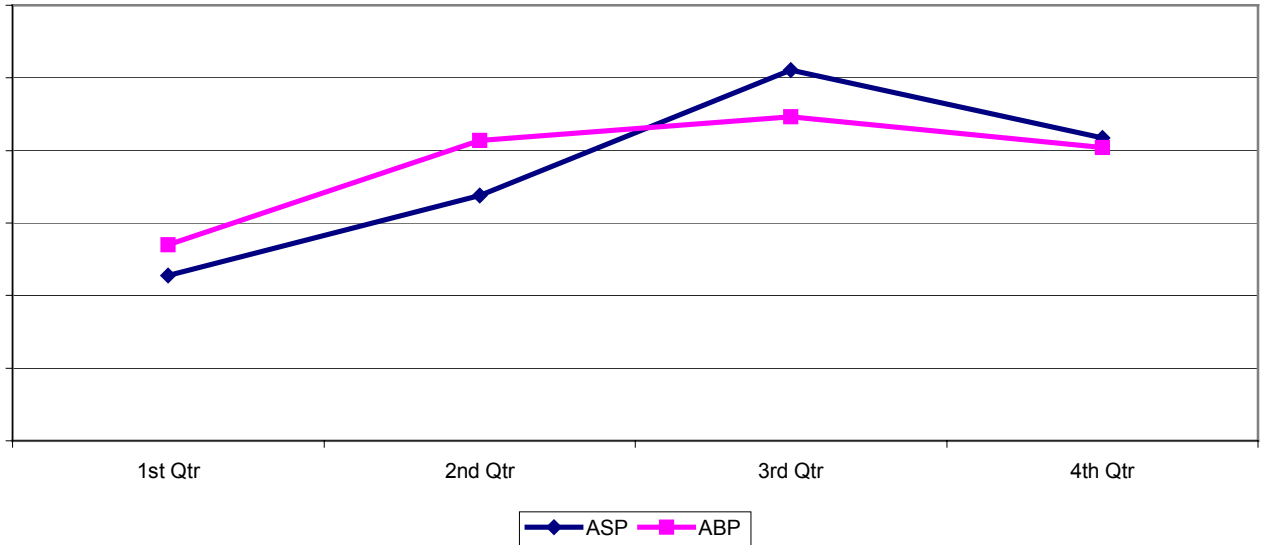
CY 2003 Total Keylock Switch Sales & Bookings



The graph above shows that sales dollars declined in the second and third quarter and finished the year just below \$ XXXX M, where it started in the first quarter. Sales units followed a similar pattern, but declined at a faster rate that led to higher ASP's shown in the graph below. Booking dollars and units

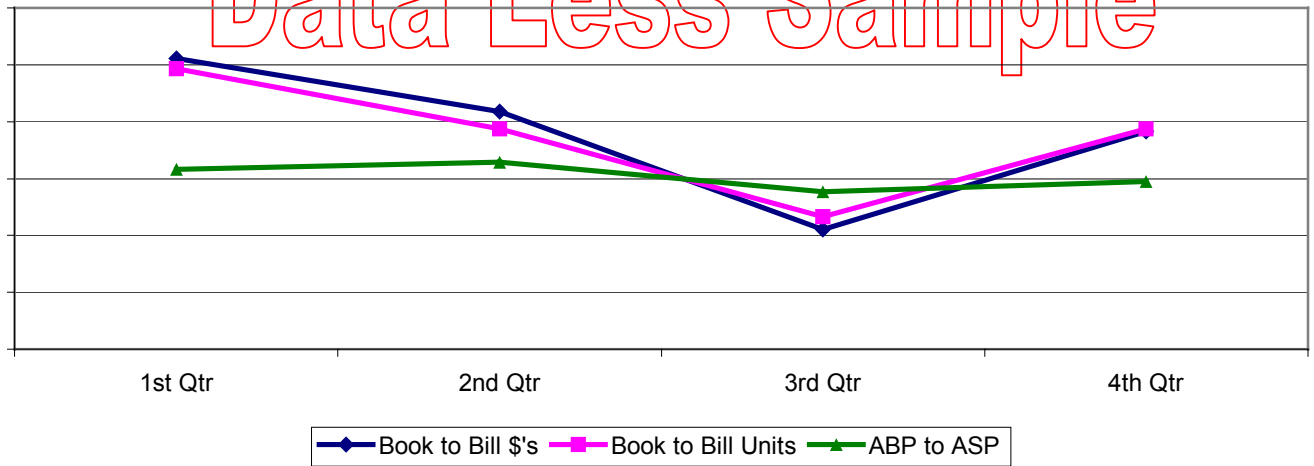
tracked with sales, except at a higher level in all but the third quarter. Which led to higher ABP's and ratios as shown below.

CY 2003 Prices for Total Keylock Switch Market



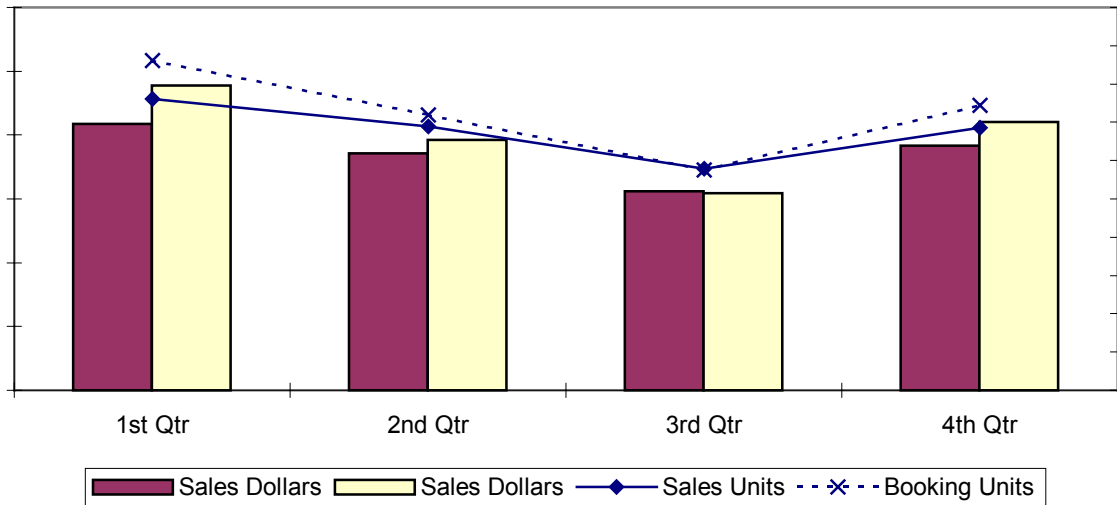
CY 2003 Ratios for Total Keylock Switch Market

Data Less Sample

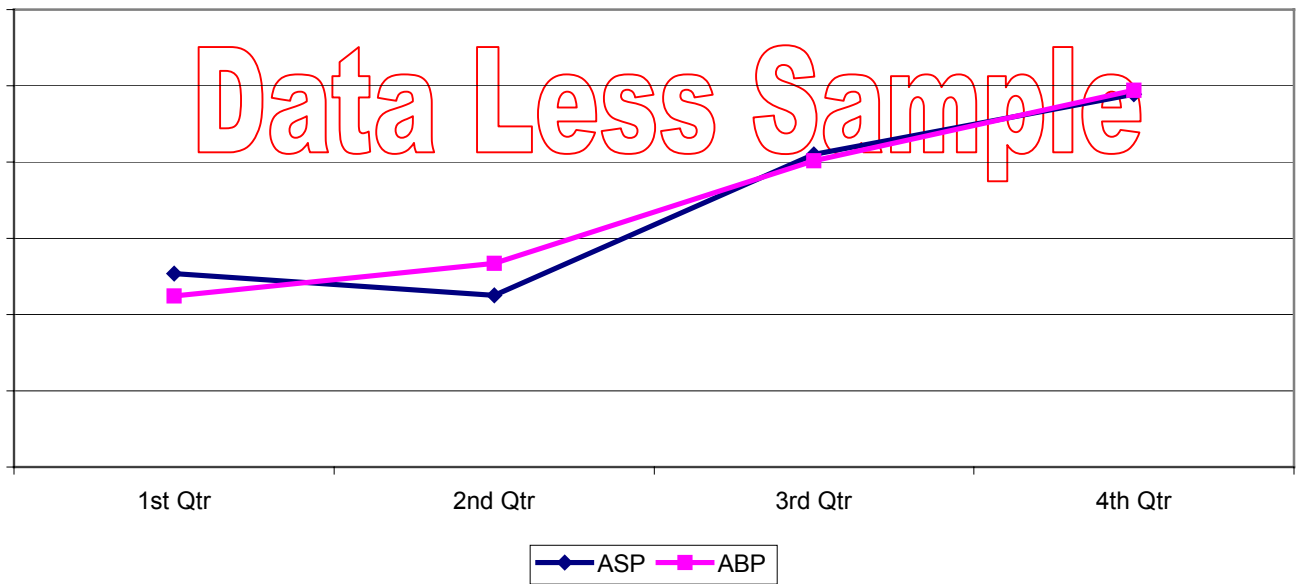


Quarterly results for each of the two product subcategories show the sources of the overall market trends. With XX% share, miniature keylock switches drove the overall segment. Its quarterly sales and booking data, shown below, is very similar to the total keylock graph shown before.

CY 2003 Total Miniature Keylock Switch Sales & Bookings



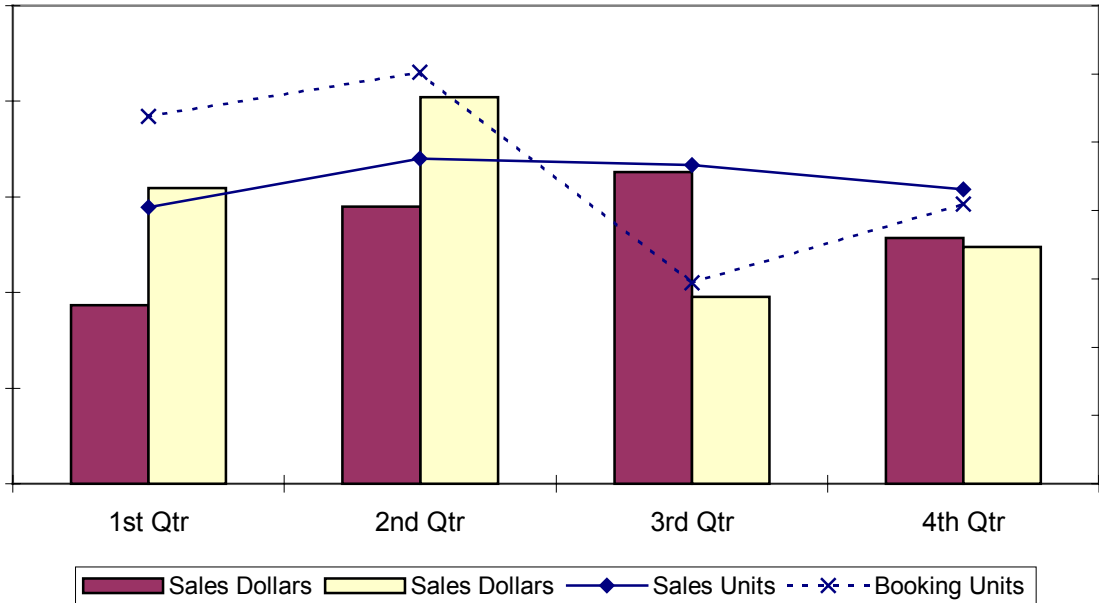
CY 2003 Miniature Keylock Prices



The smaller standard/industrial keylock switch subcategory shows a sales trend contra to that of the miniature subcategory. Here sales dollars and units, as well as prices, increased in the second and third

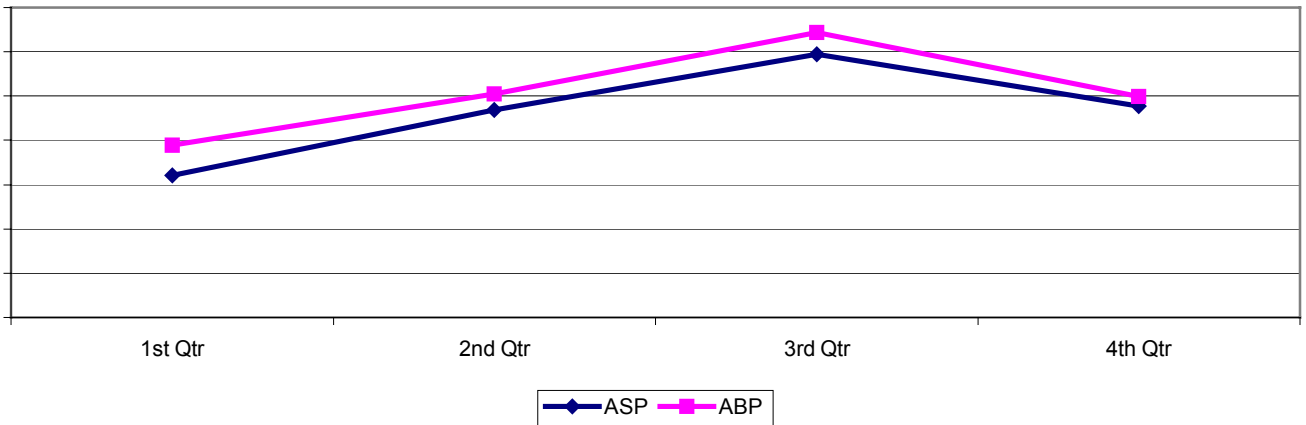
quarter and dropped in the fourth. Bookings ran higher than sales in the first half and fell off quickly in the third quarter and gained a little back in the fourth.

CY 2003 Total Standard/Industrial Keylock Switch Sales & Bookings



Data Less Sample

CY 2003 Standard/Industrial Keylock Switch Prices



CY 2003 Total Reported Keylock Switch Data

<u>Sales</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Miniature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Bookings 1st Qtr 2nd Qtr 3rd Qtr 4th Qtr CY 2003 Total

Data Less Sample

Miniature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

CY 2003 Total Reported Keylock Switch Data

<u>Ratios</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Miniature					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Standard/Industrial					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Total					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX

Push Button Switch Sales and Bookings for CY 2003

Total reported sales for push button switches are \$ XXXX M and XXXX M units with an overall ASP of \$ XXXX per switch. The companies reporting sales for CY2003 are APEM, Cherry, Grayhill, Honeywell, ITT Cannon C&K, Marquardt, NKK, Omron, SAIA-Burgess, and Tyco. Based on the sales of these manufacturers and estimates for manufacturers not yet reporting the total North American push button switch market is estimated at \$ XXXX M and XXXX M units. Total reported bookings for the same period are \$ XXXX M and XXXX M units with an overall ABP of \$XXXX. Total booking dollars are XX % greater than sales and booking units XX % higher. This drove the ABP XX % below the ASP.

Sales and bookings are reported by category and quarter for CY 2003. The detail of this and the resulting book-to-bill and ABP-to-ASP ratios are listed at the end of this section. Push button switches are divided into four product subcategories. These are subminiature, miniature, standard/industrial non-illuminated, and standard/industrial illuminated. Appendix "A" lists each contributing manufacturer and where each of their push button switch families are placed.

The two tables below show the breakdown of total reported sales and bookings for CY 2003 by category:

Sales by Category

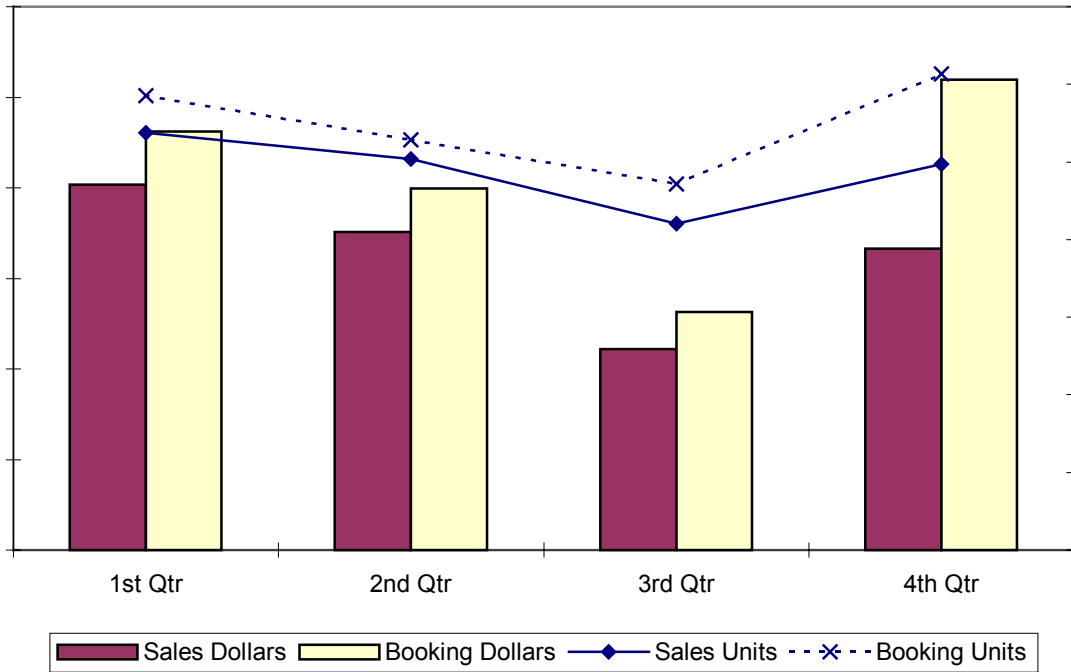
Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ASP
Subminiature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Miniature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial Non-Illuminated	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial Illuminated	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX %	XXXX M	XXX%	\$ XXXX

Bookings by Category

Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ABP
Subminiature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Miniature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial Non-Illuminated	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial Illuminated	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX %	XXXX M	XXX%	\$ XXXX

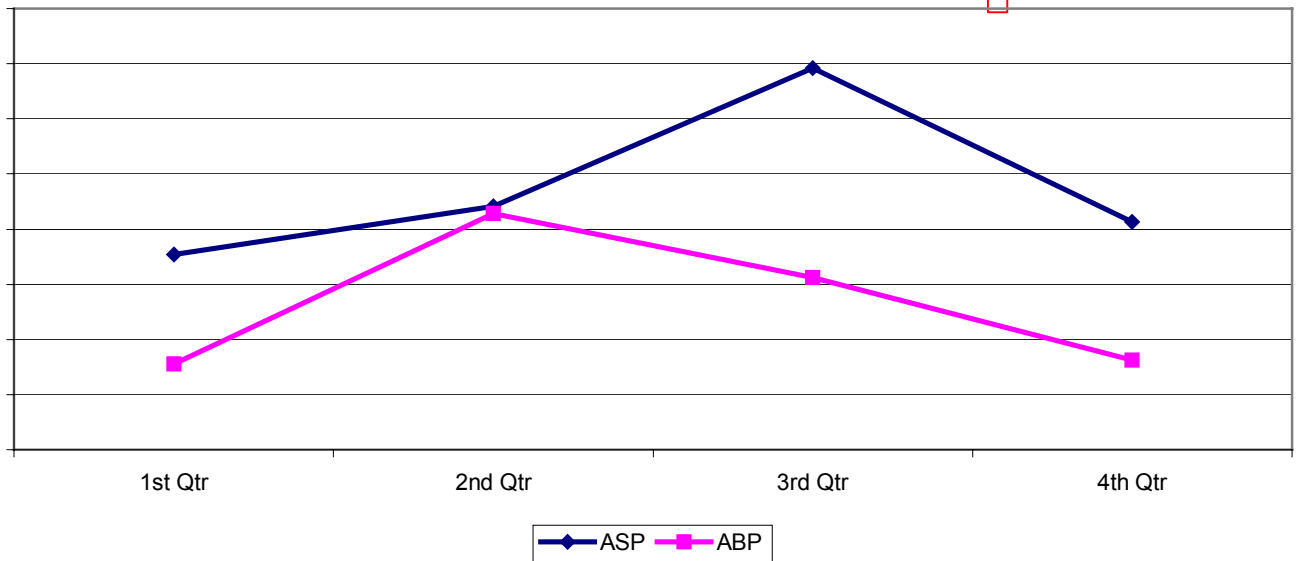
The chart below shows the sales and bookings in units and dollars for the total reported push button switch market in CY 2003. Sales and bookings dollars went down in the second and third quarters to be XX% under their first quarter starting point. Both recovered in the fourth quarter. Sales came back to second quarter total and bookings set a high point for the year. Sales units experienced a similar trend but decreased at a faster rate leading to higher selling prices. Booking prices remained below selling prices throughout the year.

CY 2003 Total Push Button Switch Sales & Bookings



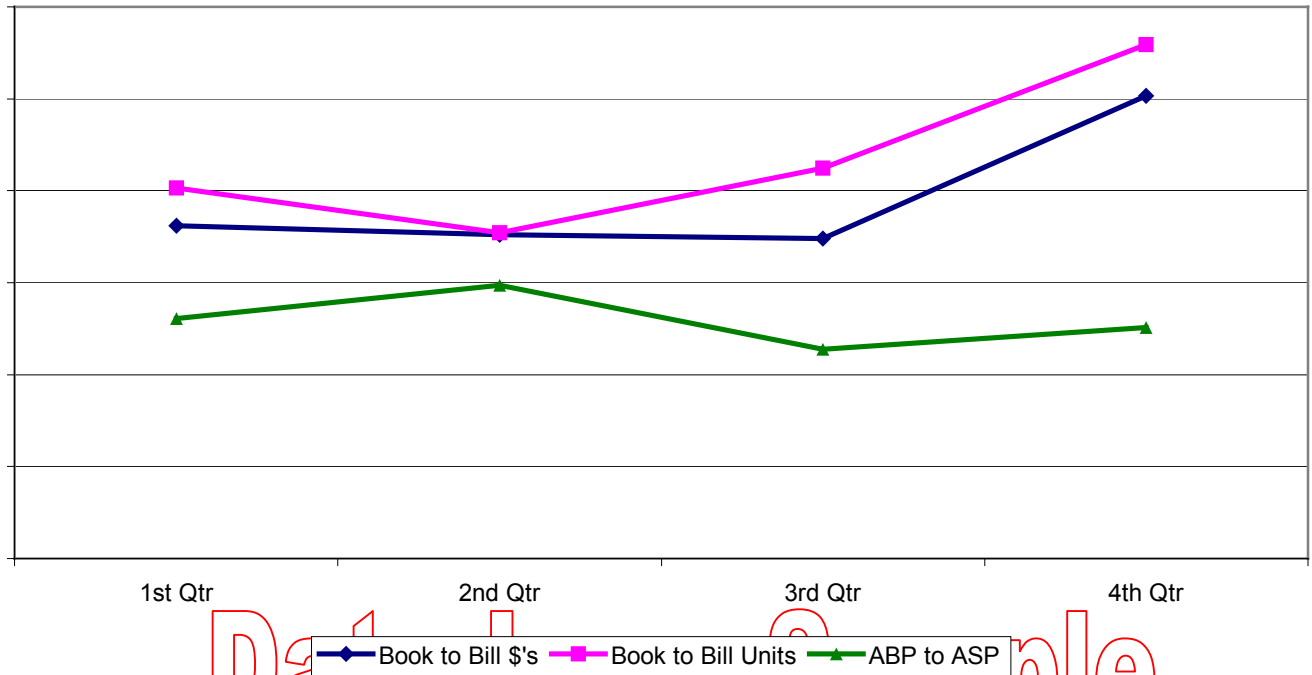
CY 2003 Prices for Total Push Button Switch Market

Data Less Sample



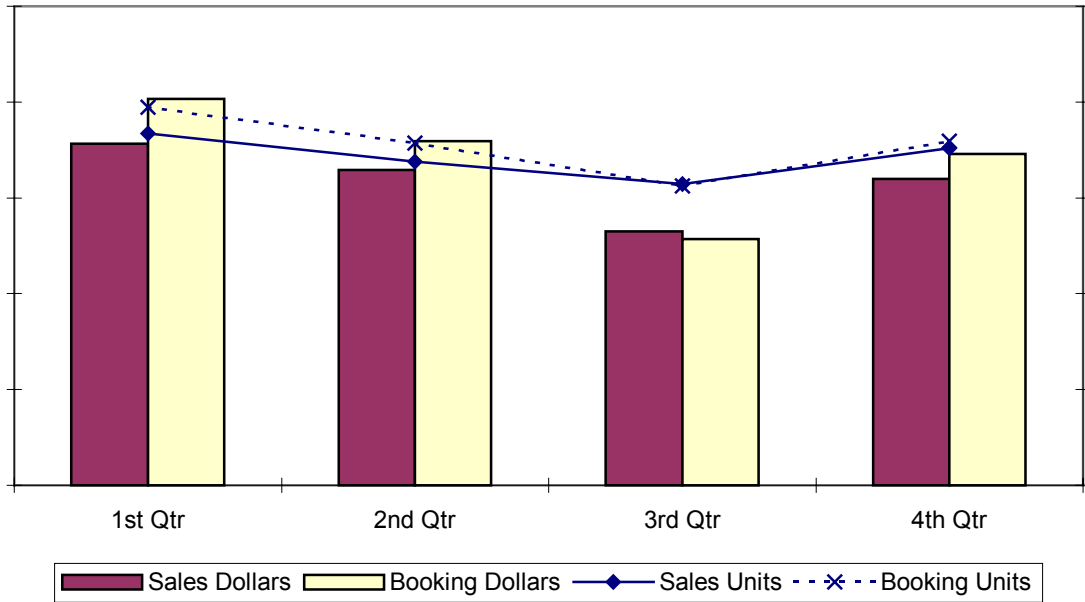
Book-to-bill ratios for dollars and units stayed above XX for all of CY 2003 and peaked with the fourth quarter's strong bookings. The booking to selling price ratio was less than XX all year.

CY 2003 Ratios for Total Push Button Switch Market

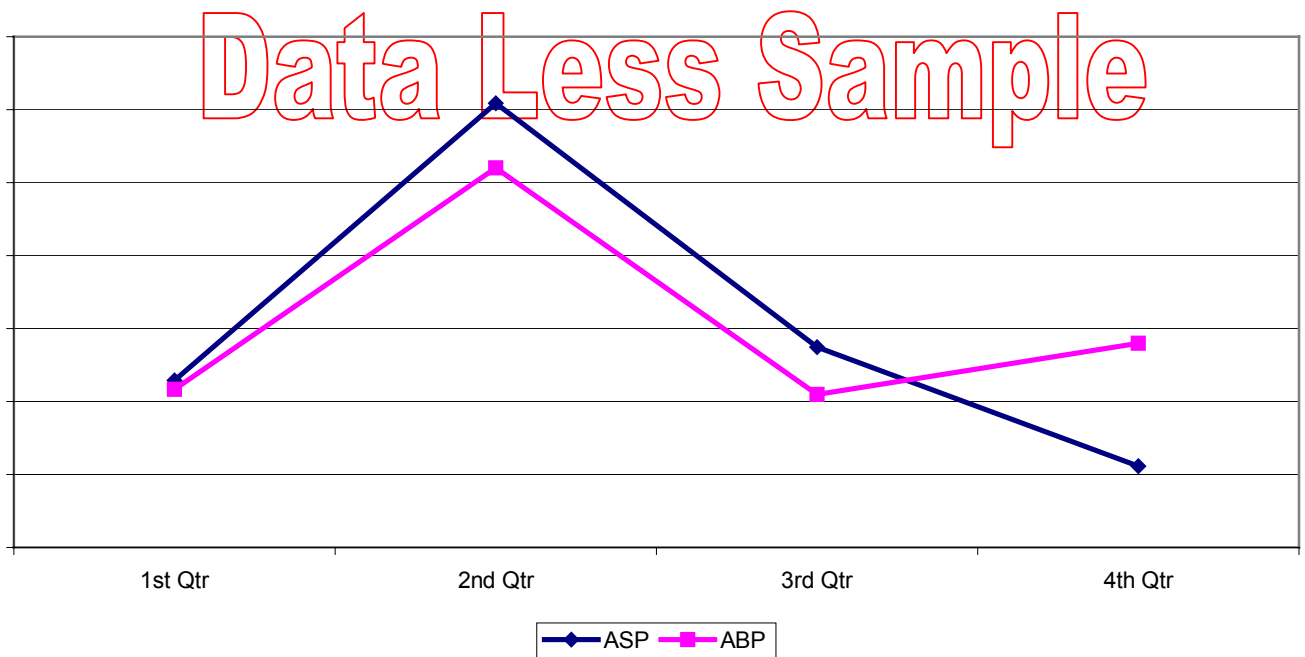


Quarterly results for each of the four product categories show the sources of the overall market trends. The first of which is subminiature push buttons. As reflected in the total market, sales and booking dollars went down and bottomed in the third quarter. Sales dollars fell XX% and bookings XX%. Booking units were off XX% and sales units declined XX%. Selling prices rose as dollars declined less than units in the second quarter then fell to the years low in the fourth quarter. Booking prices also spiked in the second quarter but ended the year slightly above its mark in the first quarter.

CY 2003 Total Subminiature Push Button Switch Sales & Bookings

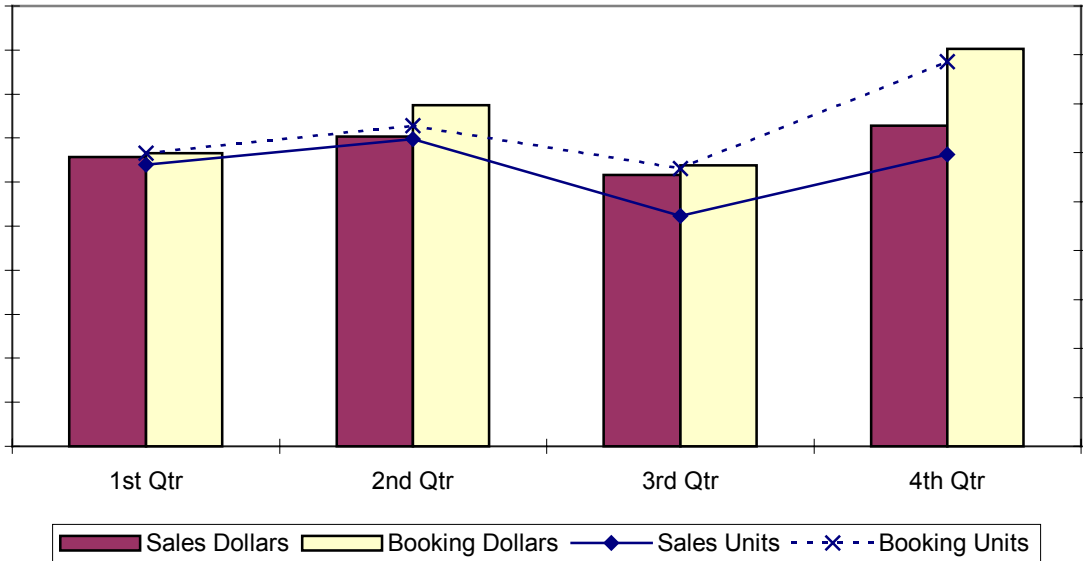


CY 2003 Subminiature Push Button Switch Prices

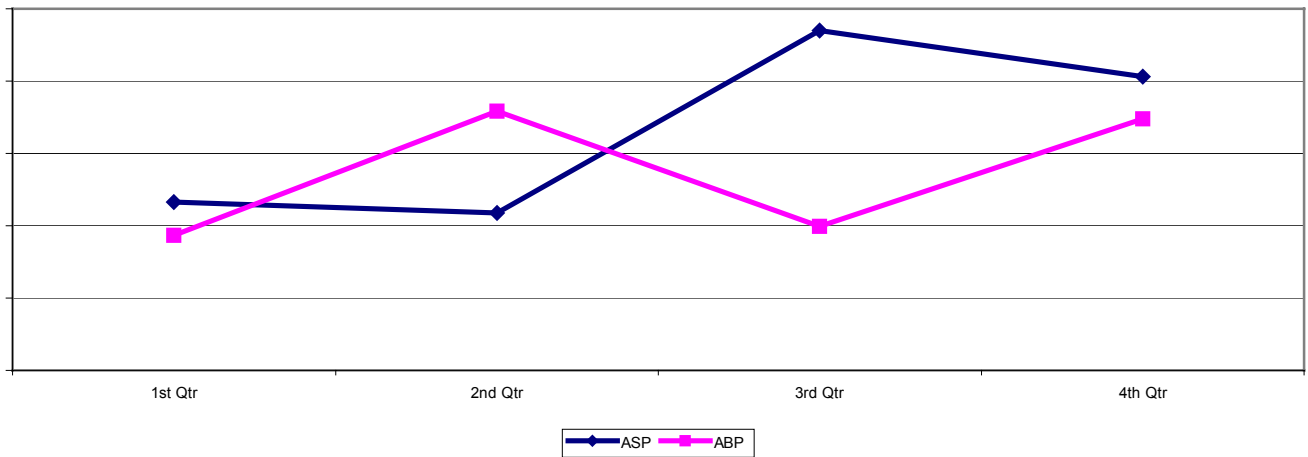


Miniature push buttons sales dollars varied up and down by XX% to XX% and ended the year at its peak. Booking dollars varied the same except at XX% and ended the year at the high with a XX% jump. Selling prices in the second half were higher than the first and booking prices. Booking prices oscillated up and down with each quarter.

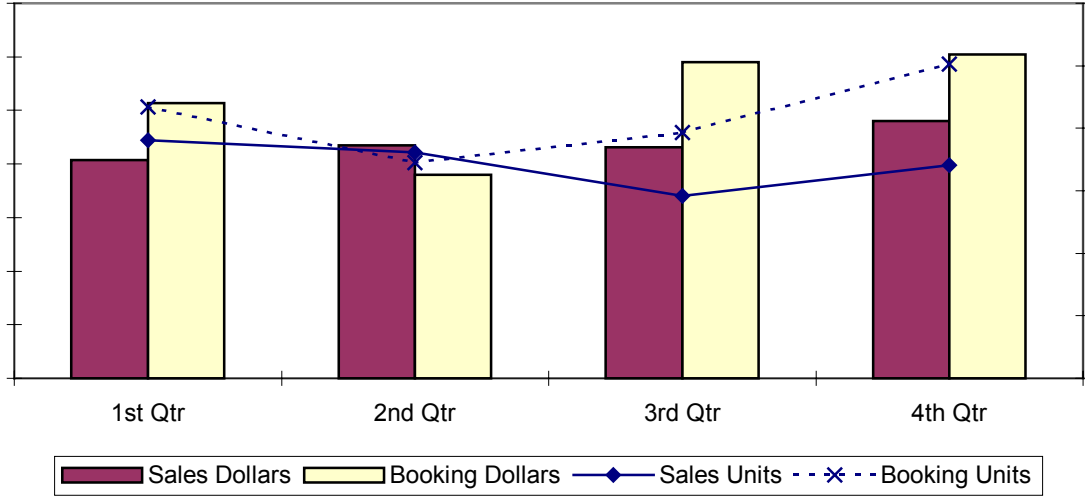
CY 2003 Total Miniature Push Button Switch Sales & Bookings



Data Less Sample



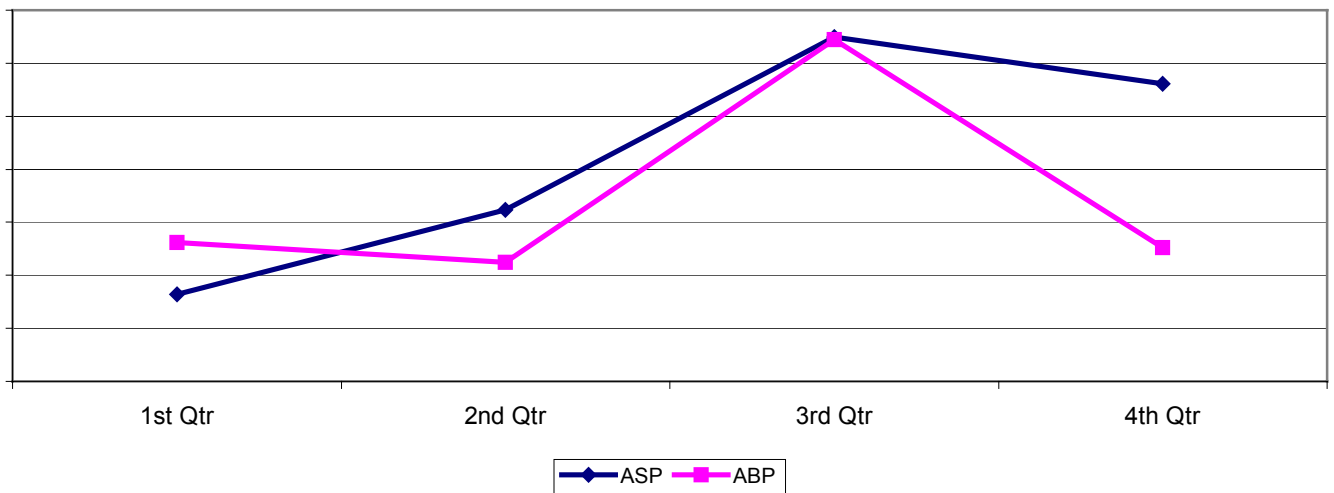
CY 2003 Total Standard/Industrial Non-Illuminated Push Button Switch Sales & Bookings



Quarterly standard/industrial non-illuminated pushbutton sales rose slightly in each quarter, except in the third when it held steady compared to the second quarter. Booking dollars were more volatile and the second half saw bookings running XX% above sales dollars. Sales units generally declined through the year leading to increasing selling prices. Booking prices started out the year above selling prices but stayed at or below selling prices there after.

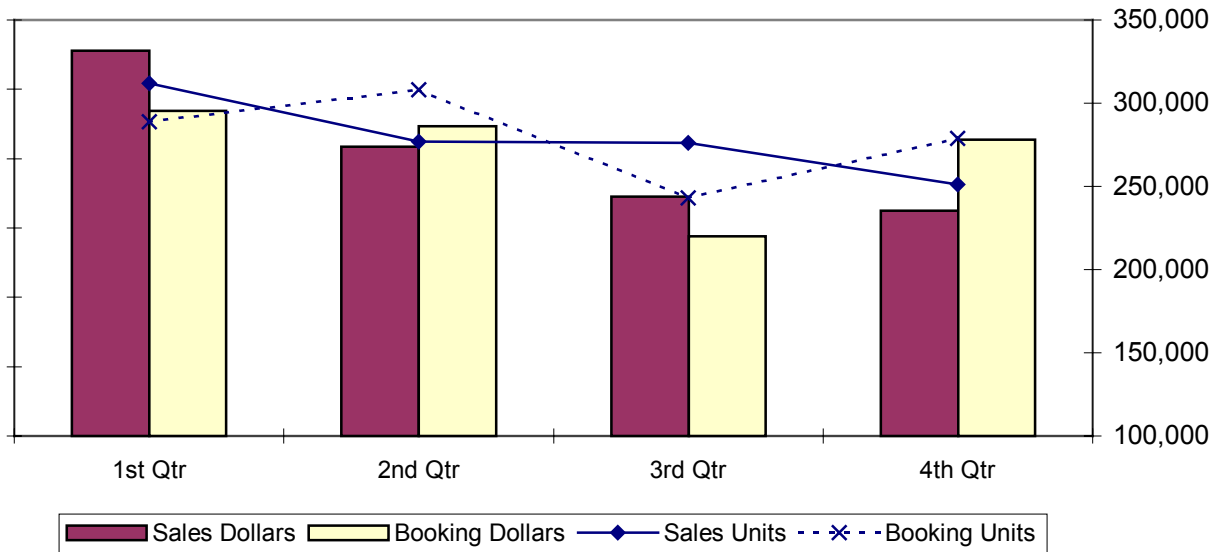
Data Less Sample

CY 2003 Standard/Industrial Non-Illuminated Push Button Switch Prices



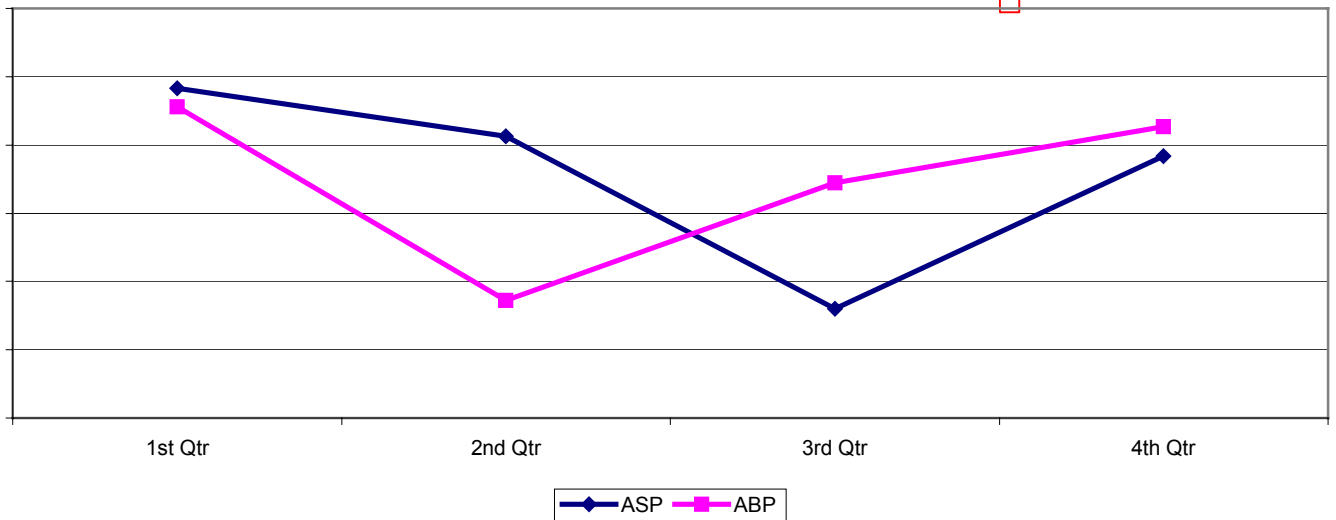
Standard/industrial illuminated pushbuttons declined steadily over CY 2003. Ending the year with quarterly sales dollars XX% lower than the first quarter. Booking dollars declined through the third quarter and then increased XX% to end the year near the level of the first quarter. Selling prices decreased in quarters two and three. Then rebounded some in fourth, but still lower overall. Booking prices bottomed in the second quarter and rose above selling prices for the second half of the year.

CY 2003 Total Standard/Industrial Illuminated Push Button Switch Sales & Bookings



Data Less Sample

CY 2003 Standard/Industrial Illuminated Push Button Switch Prices



CY 2003 Total Reported Push Button Switch Data

<u>Sales</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Miniature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial, Non-Illuminated					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial, Illuminated					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Data Less Sample

CY 2003 Total Reported Push Button Switch Data

<u>Bookings</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Miniature					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial, Non-Illuminated					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial, Illuminated					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Data Less Sample

CY 2003 Total Reported Push Button Switch Data

<u>Ratios</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Miniature					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Standard/Industrial, Non-Illuminated					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Standard/Industrial, Illuminated					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Total					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX

Data Less Sample

Rocker Switch Sales and Bookings for CY 2003

Total reported sales for rocker switches are \$ XXXX M and XXXX M units with an overall ASP of \$ XXXX per switch. The companies reporting sales for CY2003 are APEM, Cherry, Grayhill, Honeywell, ITT Cannon C&K, Marquardt, NKK, Omron, SAIA-Burgess, and Tyco. Based on the sales of these manufacturers and estimates for manufacturers not yet reporting the total North American rocker switch market is estimated at \$XXXX M and XXXX M units. Total reported bookings for the same period are \$ XXXX M and XXXX M units with an overall ABP of \$ XXXX. Bookings in units and dollars were higher than sales by XX% and the average booking price about equals the average selling price.

Sales and bookings are reported by category and quarter for CY 2003. The detail of this and the resulting book-to-bill and ABP-to-ASP ratios are listed at the end of this section. Rocker switches are divided into four product subcategories. These are subminiature, miniature, standard/industrial non-illuminated, and standard/industrial illuminated. Appendix “A” lists each reporting manufacturer and where each of their snap action switch families are placed.

The two tables below show the breakdown of total reported sales and bookings for CY 2003 by subcategory:

Sales by Category

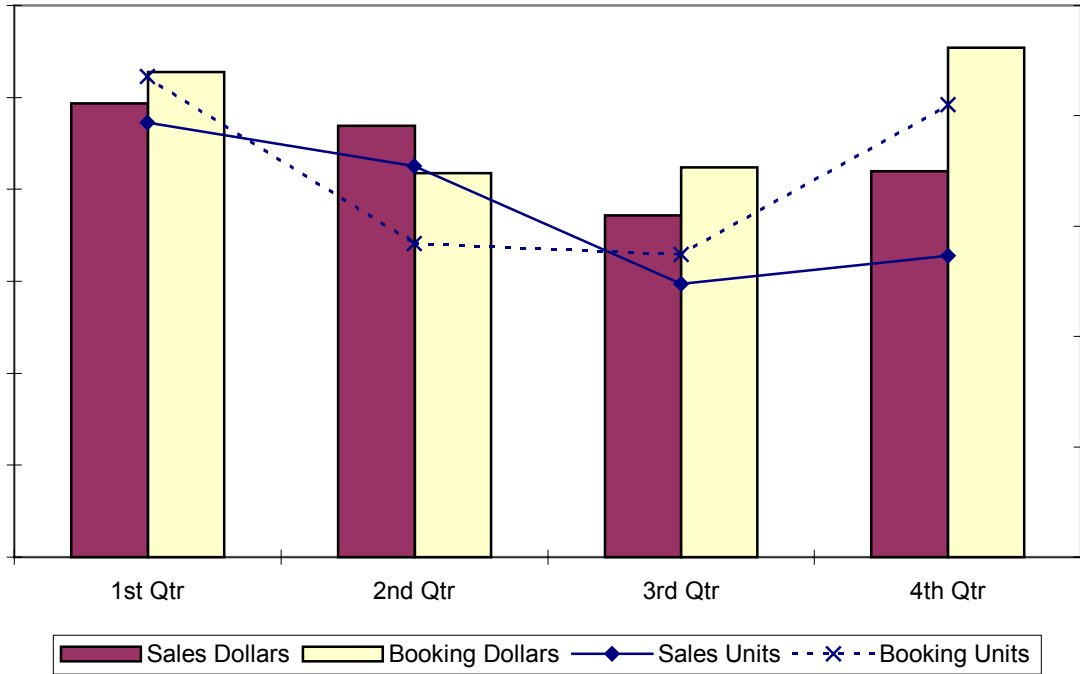
Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ASP
Subminiature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Miniature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial Non-Illuminated	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial Illuminated	\$ XXXX M	XXX %	XXXX M	XXX%	\$ XXXX
Total	\$ XXXX M	XXX%	XXXX M	XXX%	\$ XXXX

Bookings by Category

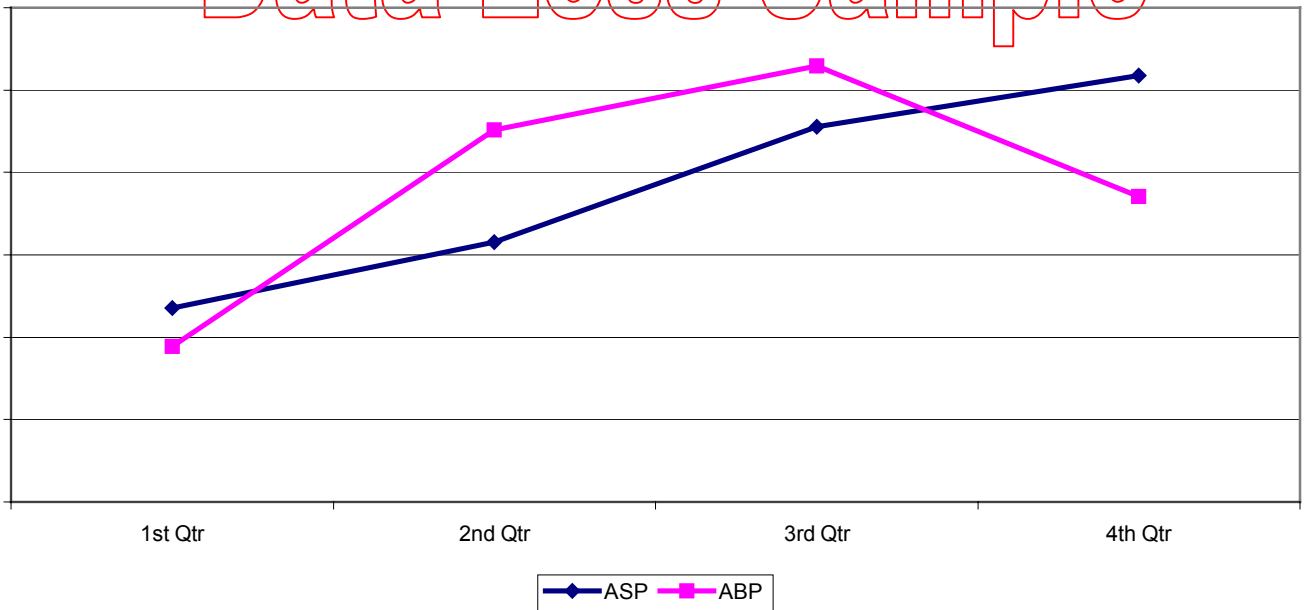
Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ABP
Subminiature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Miniature	\$ XXXX M	XXX %	XXXX M	XXX%	\$ XXXX
Standard/Industrial Non-Illuminated	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial Illuminated	\$ XXXX M	XXX %	XXXX M	XXX%	\$ XXXX
Total	\$ XXXX M	XXX%	XXXX M	XXX%	\$ XXXX

The chart below shows the sales and bookings in units and dollars for the reported total rocker switch market in CY 2003. While rocker switch sales dollars receded in the second and third quarter, sales units did the same at a greater rate and average selling prices increased each quarter. Booking units and dollars followed the same pattern. The fourth quarter saw increase in all measures. Booking units had the largest percentage increase at XX% and booking dollars rose XX%. Sales dollars rose XX% and units by XX%.

CY 2003 Total Rocker Switch Sales & Bookings

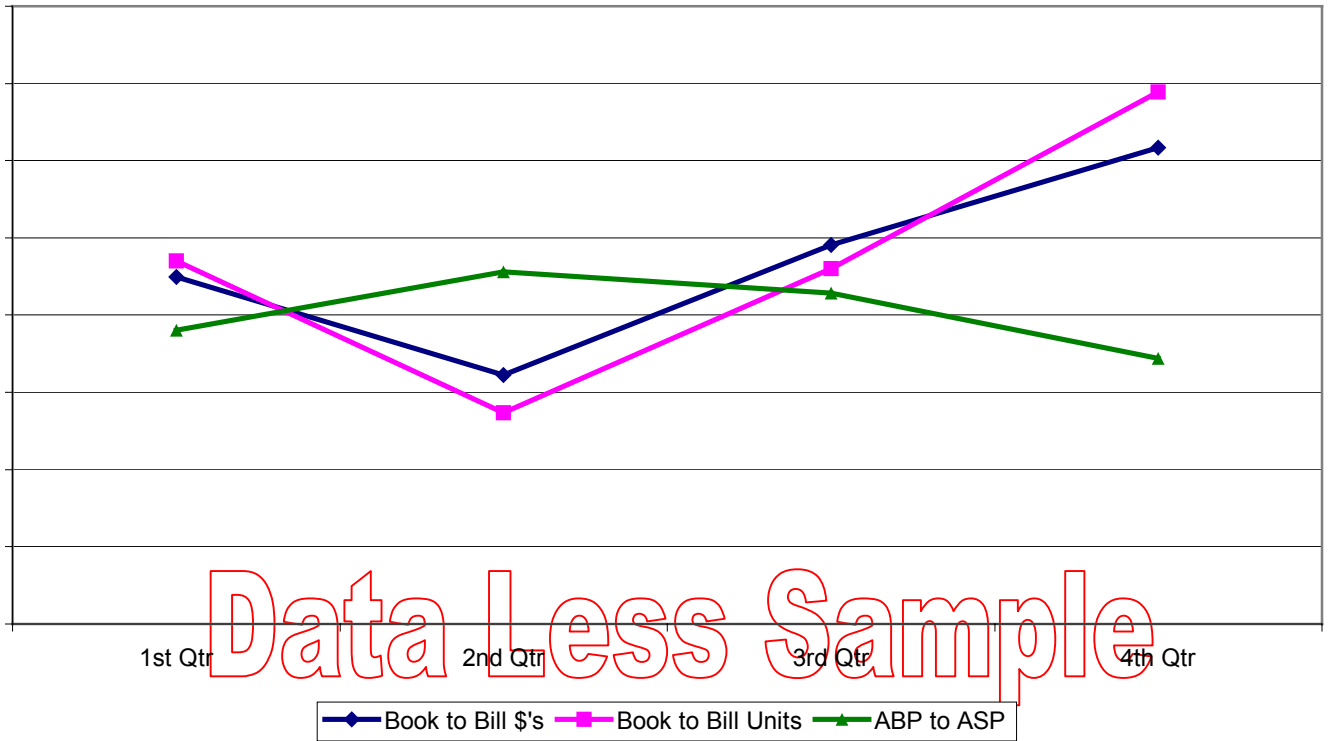


CY 2003 Prices for Total Rocker Switch Market
Data Less Sample



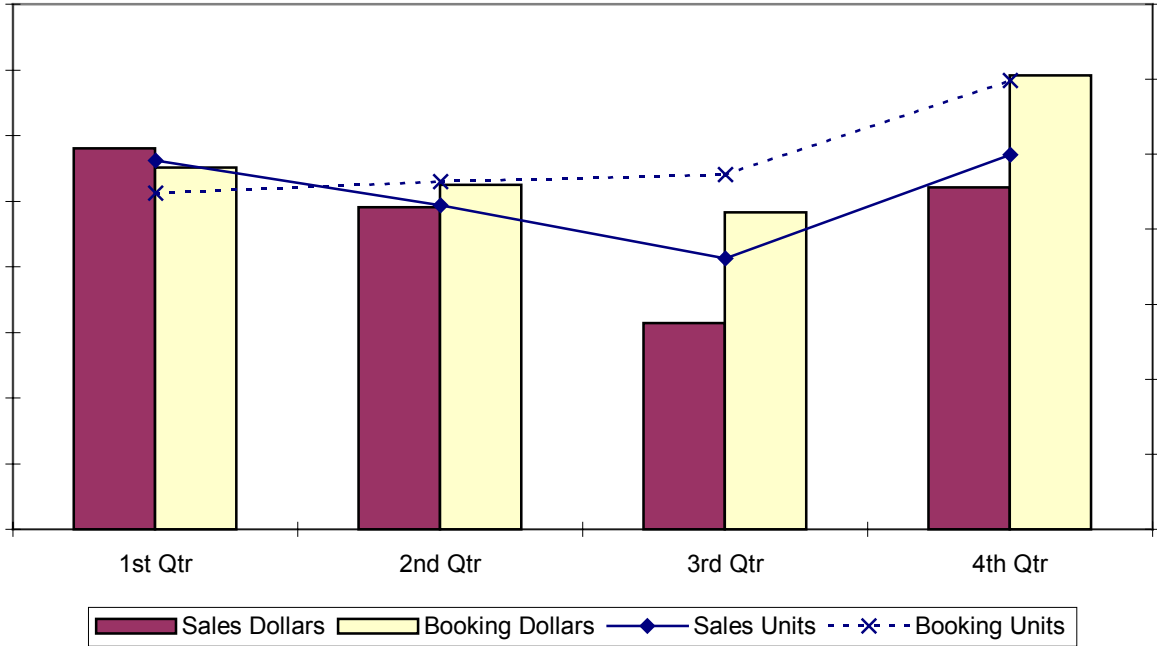
Book-to-bill dollars and units tracked together in CY 2003. They came in below XX in the second quarter and ran above XX in the other quarters. The ratio of booking to selling prices started and ended the year below XX.

CY 2003 Ratios for Total Rocker Switch Market



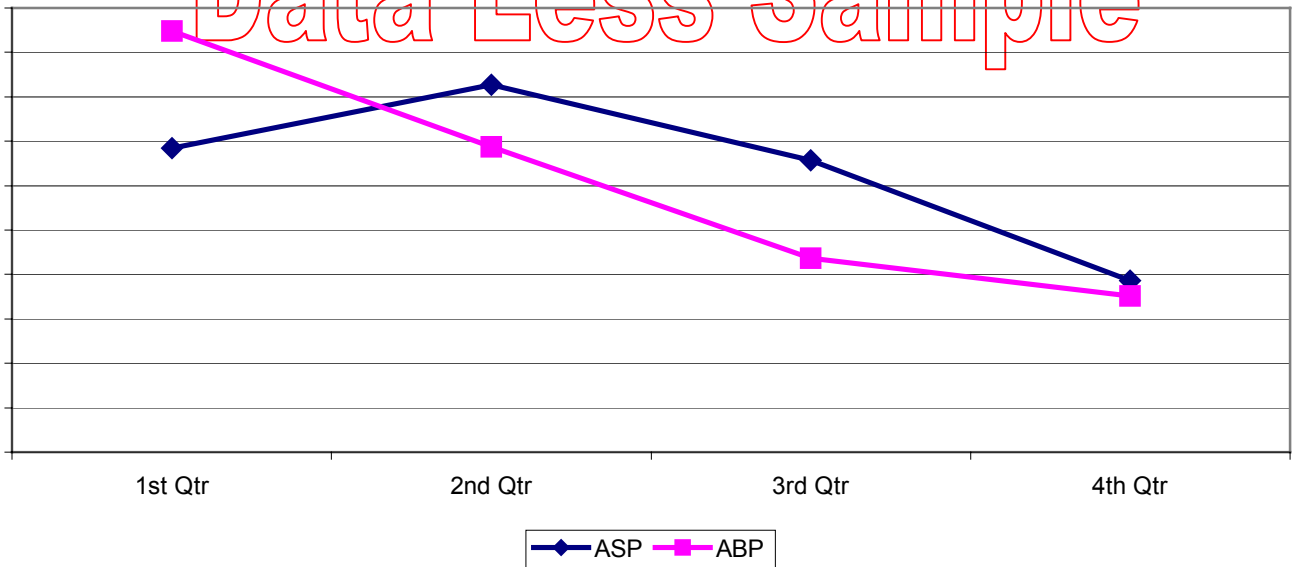
Quarterly results for each of the four product categories show the sources of the overall market trends. Subminiatures had sales and booking dollars consistently lower over the first three quarters. Sales dollars were XX% and bookings XX% lower by the third quarter. Booking units increased each quarter and resulted in booking prices decreases. Selling prices started the year with an increase then turned lower in the second half of the year. Sales and booking dollars shot up by XX% and XX% respectively in the fourth quarter. Bookings ended the year at their highest level.

CY 2003 Total Subminiature Rocker Switch Sales & Bookings



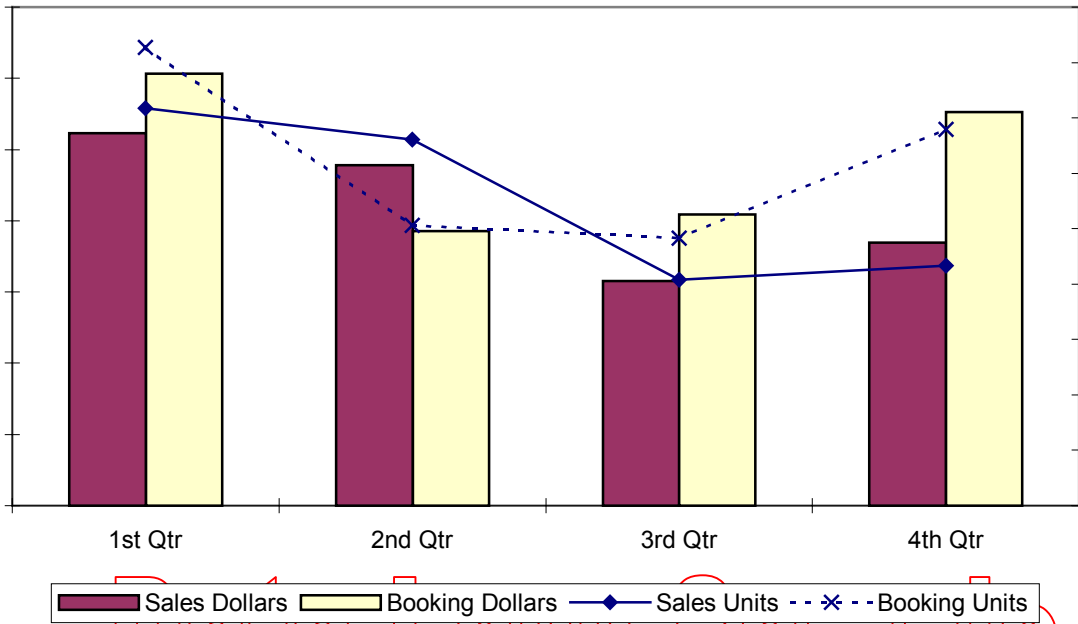
CY 2003 Subminiature Rocker Switch Prices

Data Less Sample



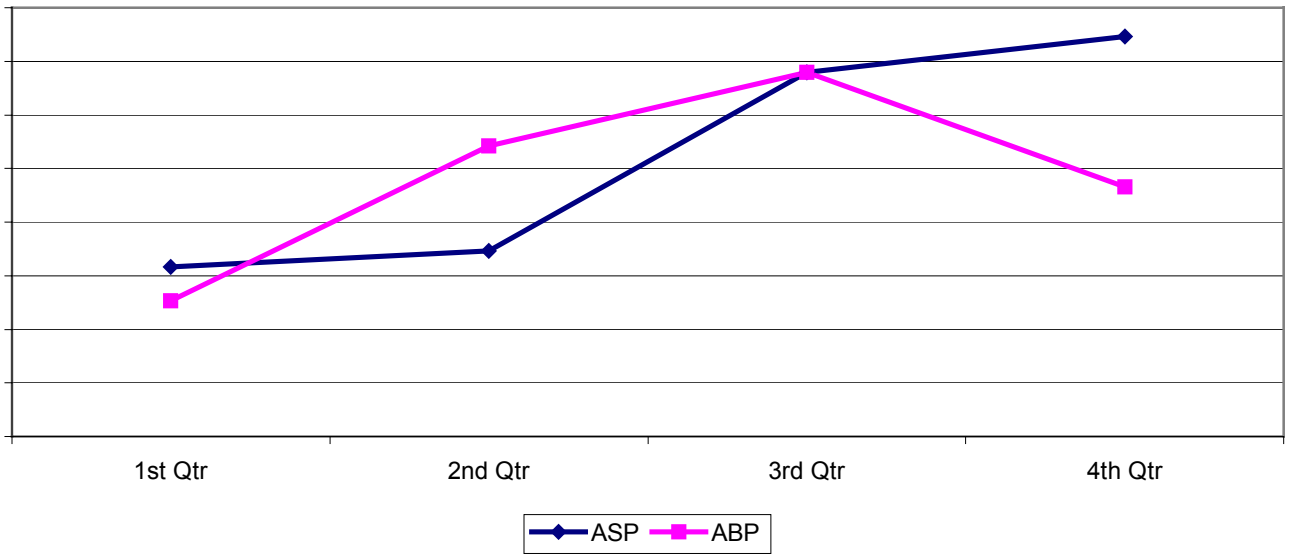
Miniature rocker switch selling prices increased XX% while total sales dollars and units decreased. Bookings also had pricing rise over the first three quarters. Booking dollars reached a low in the second and units in the third quarters. Bookings came back strong in fourth quarter and sales increased a much smaller amount.

CY 2003 Total Miniature Rocker Switch Sales & Bookings



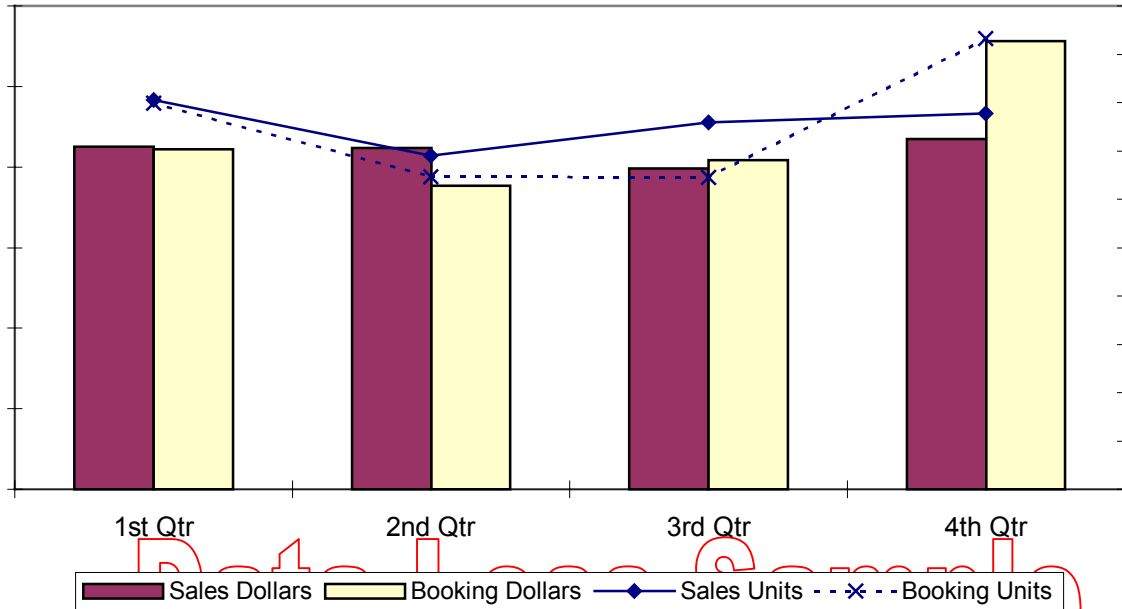
Data Less Sample

CY 2003 Miniature Rocker Prices

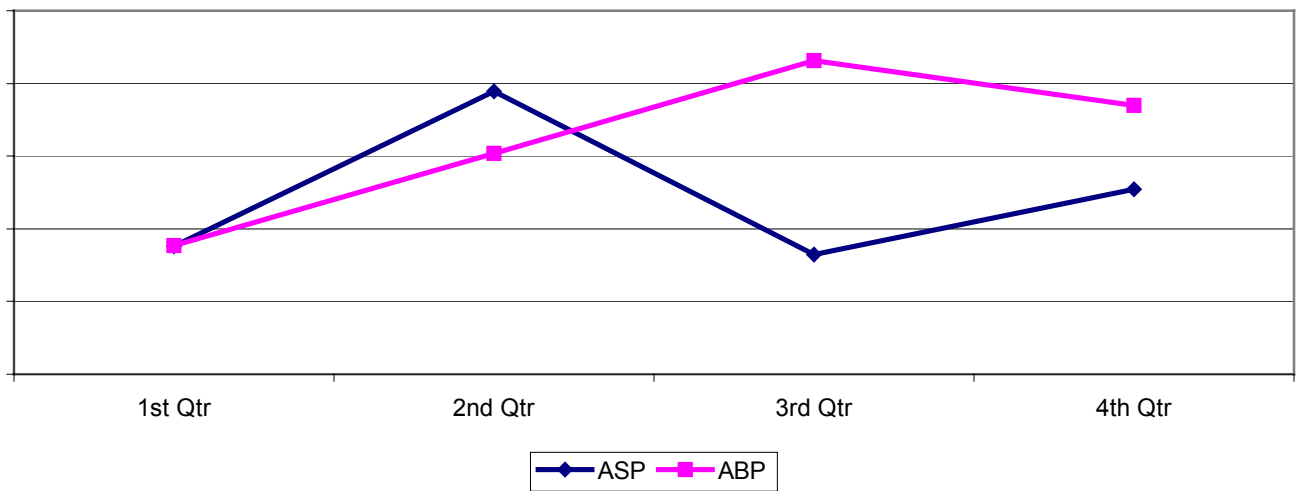


Standard non-illuminated rocker switches had near flat quarterly sales in dollars and units. Slight dips in units in the second quarter and dollars in the third quarter led to fluctuations in the selling price. Booking price started the year equal to the selling price and then increased as booking units fell faster than dollars. Bookings came back nicely with a XX% increase in dollars to end the year.

CY 2003 Total Standard/Industrial Non-Illuminated Rocker Switch Sales & Bookings

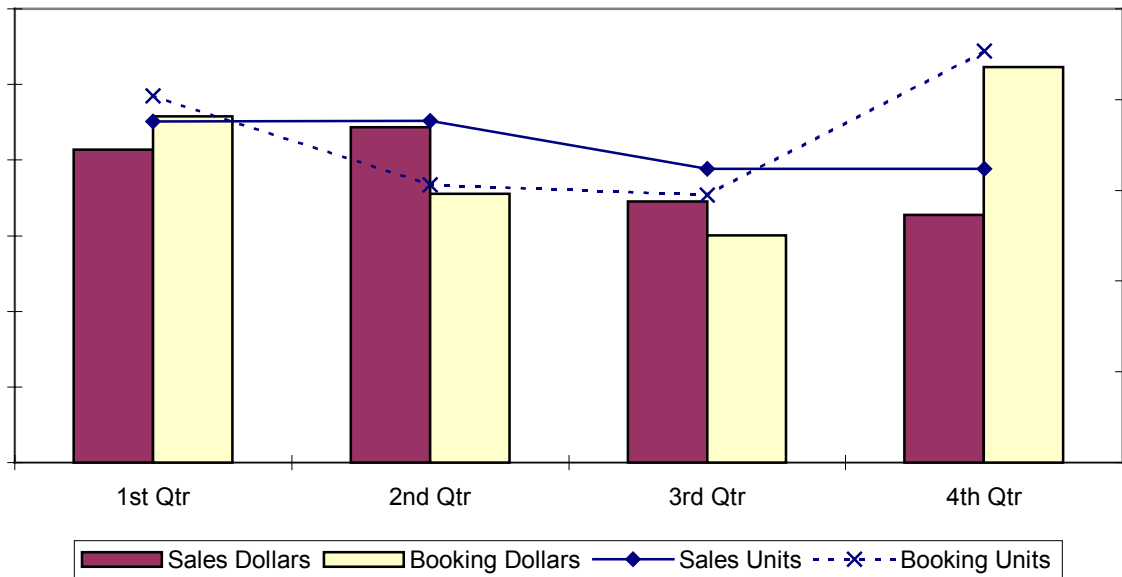


CY 2003 Standard/Industrial Non-Illuminated Rocker Switch Prices



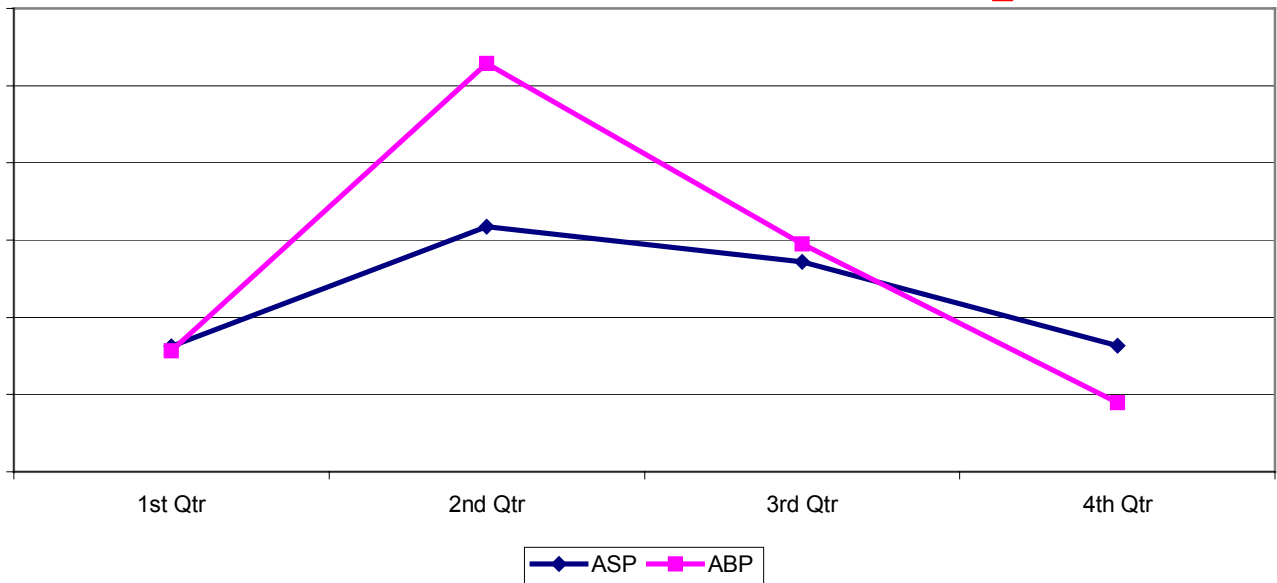
Standard illuminated rocker switch sales dollars are about half that of non-illuminated. Quarterly sales dollars generally declined through last year. Selling prices rose then came down to end the year near where they started. Bookings also declined for the first three quarters and dollars jumped XX% at year end.

CY 2003 Total Standard/Industrial Illuminated Rocker Switch Sales & Bookings



Data Less Sample

CY 2003 Standard/Industrial Illuminated Rocker Switch Prices



CY 2003 Total Reported Rocker Switch Data

<u>Sales</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Miniature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial, Non-Illuminated					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial, Illuminated					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Data Less Sample

CY 2003 Total Reported Rocker Switch Data

<u>Bookings</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Miniature					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial, Non-Illuminated					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial, Illuminated					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Data Loss Sample

CY 2003 Total Reported Rocker Switch Data

<u>Ratios</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Miniature					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Standard/Industrial, Non-Illuminated					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Standard/Industrial, Illuminated					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Total					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX

Data Less Sample

Slide Switch Sales and Bookings for CY 2003

Total reported sales for slide switches are \$ XXXX M and XXXX M units with an overall ASP of \$ XXXX per switch. The companies reporting sales for CY2003 are APEM, Grayhill, ITT Cannon C&K, Marquardt, NKK, SAIA-Burgess, and Tyco. Based on the sales of these manufacturers and estimates for manufacturers not yet reporting the total North American slide switch market is estimated at \$ XXXX M and XXXX M units. Total reported bookings for the same period are \$XXXX M and XXXX M units with an overall ABP of \$ XXXX. Sales and booking units are about equal while booked dollars were XX% over sales and resulted in a XX% higher booking price versus selling price.

Sales and bookings are reported by category and quarter for CY 2003. The detail of this and the resulting book-to-bill and ABP-to-ASP ratios are listed at the end of this section. Slide switches are divided into four product subcategories. These are subminiature, surface mount, miniature, and standard/industrial. Appendix "A" lists each reporting manufacturer and where each of their slide switch families are placed.

The two tables below show the breakdown of total reported sales and bookings for CY 2003 by category:

Sales by Category

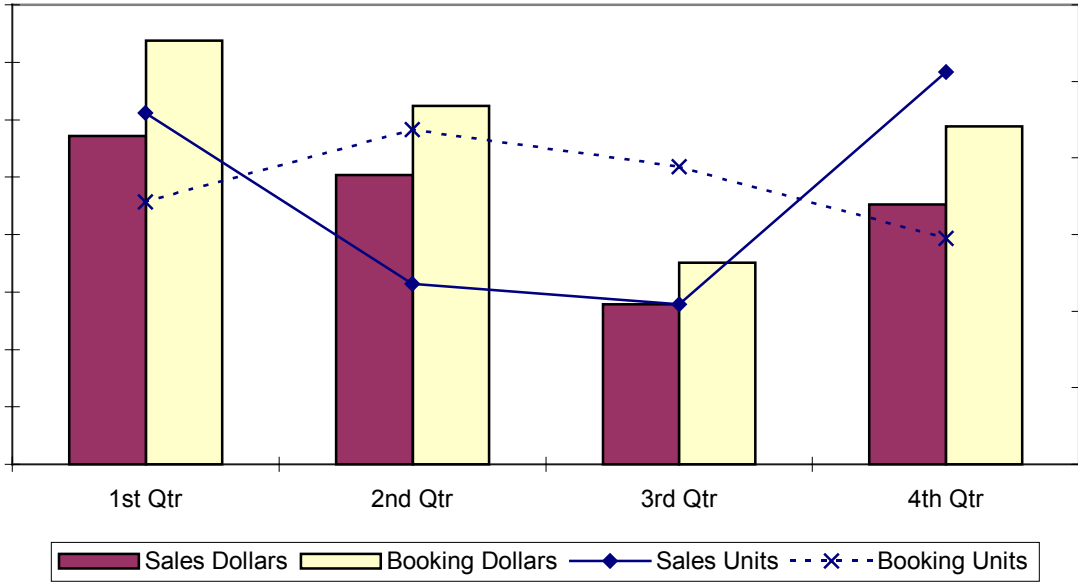
Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ASP
Subminiature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Surface Mount	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Miniature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX

Bookings by Category

Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ABP
Subminiature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Surface Mount	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Miniature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX

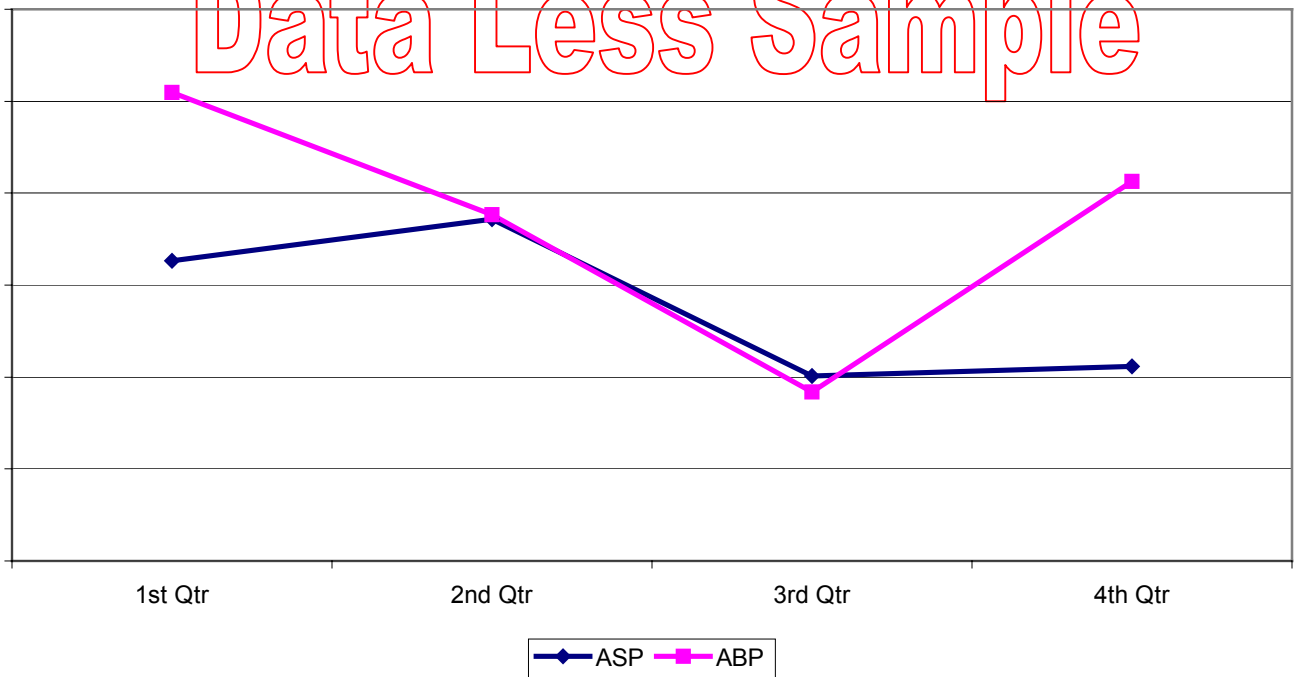
The chart below shows the sales and bookings in units and dollars for the reported total slide switch market in CY 2003. Quarterly sales and booking dollars declined over the first three quarters. Sales dropped by XX % while bookings were off XX%. Booking dollars spent the year above sales dollars. Bookings and sales dollars rose in the fourth quarter. Average selling prices declined over the year. Booking prices did the same until the fourth quarter when it recovered some and stood almost XX% higher than the selling price.

CY 2003 Total Slide Switch Sales & Bookings



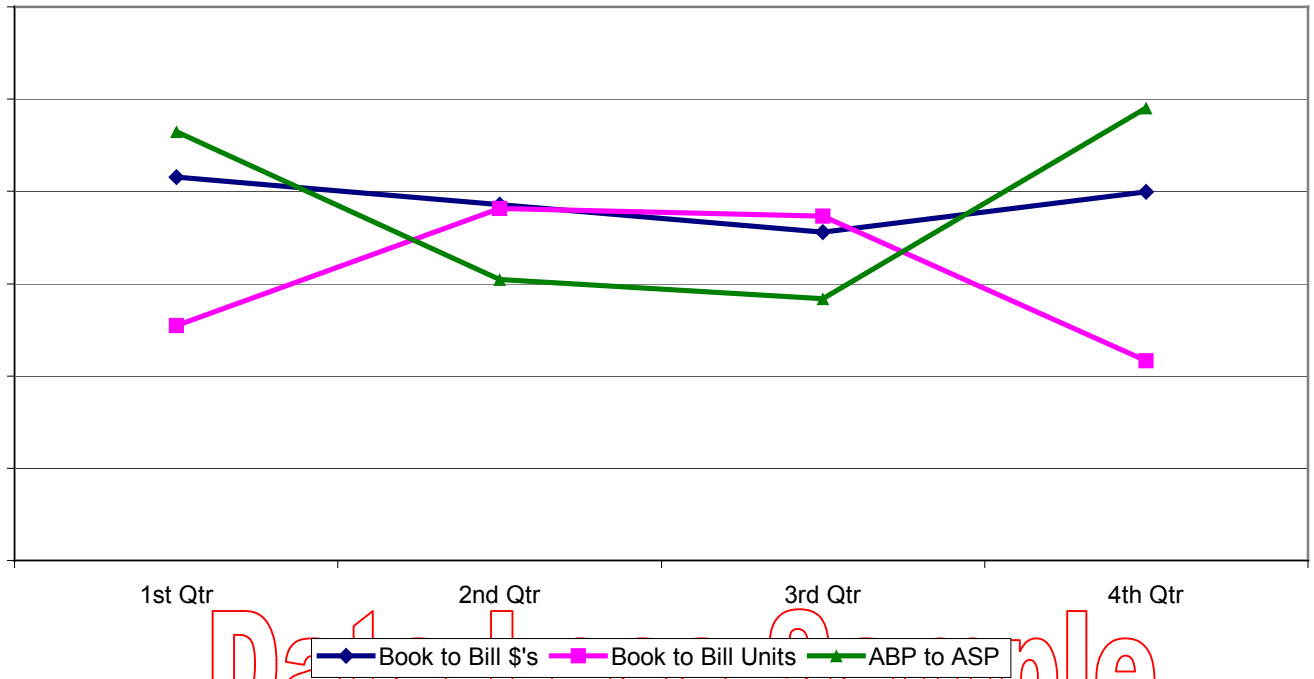
CY 2003 Prices for Total Slide Switch Market

Data Less Sample



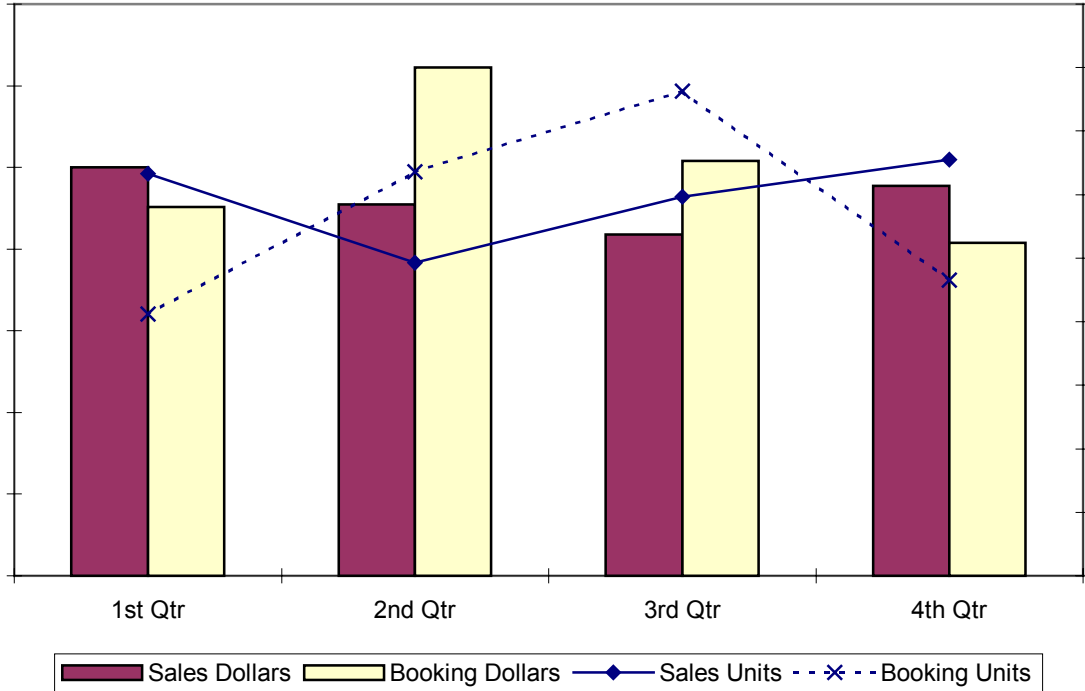
Total slide switch book-to-bill dollars stayed well above XX last year. With fewer units booked than sold in the first and fourth quarters, average booking prices in those quarters ran almost 10 % higher than the selling prices.

CY 2003 Ratios for Total Slide Switch Market



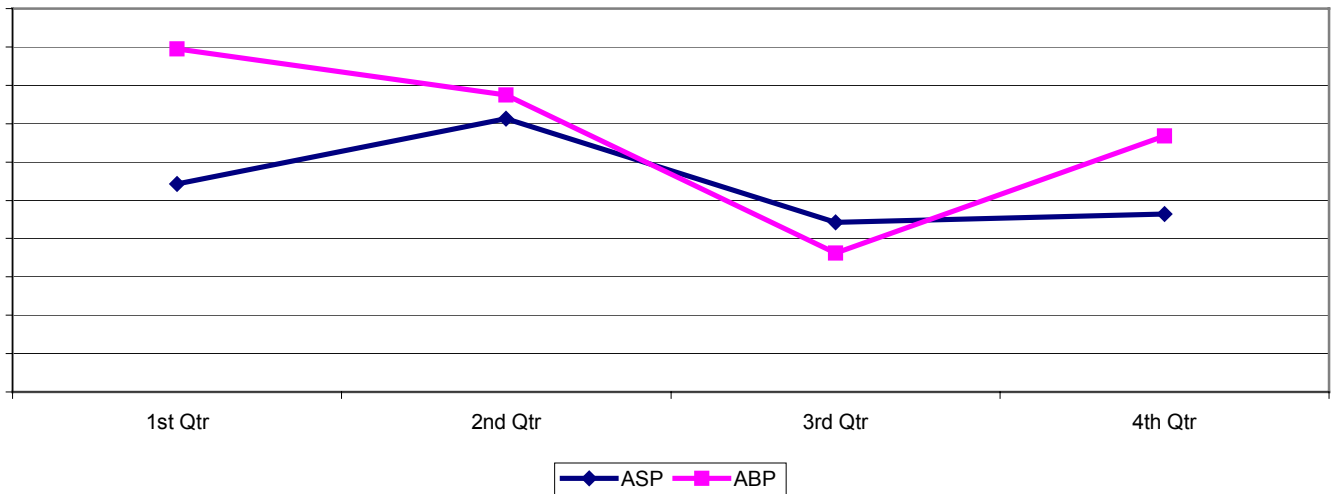
Quarterly results for each of the four product categories show the sources of the overall market trends. Subminiature slide switches had quarterly sales dollars decline in the second and third quarters. The fourth quarter saw sales dollars rise, but not to the high mark set in the first quarter. Booking dollars reached their peak in the second quarter then went lower in each quarter of the second half of the year. Overall subminiature selling prices reduced some over the year. Booking prices were higher than selling prices in three of four quarters. Booking prices ended about XX% above selling prices.

CY 2003 Total Subminiature Slide Switch Sales & Bookings



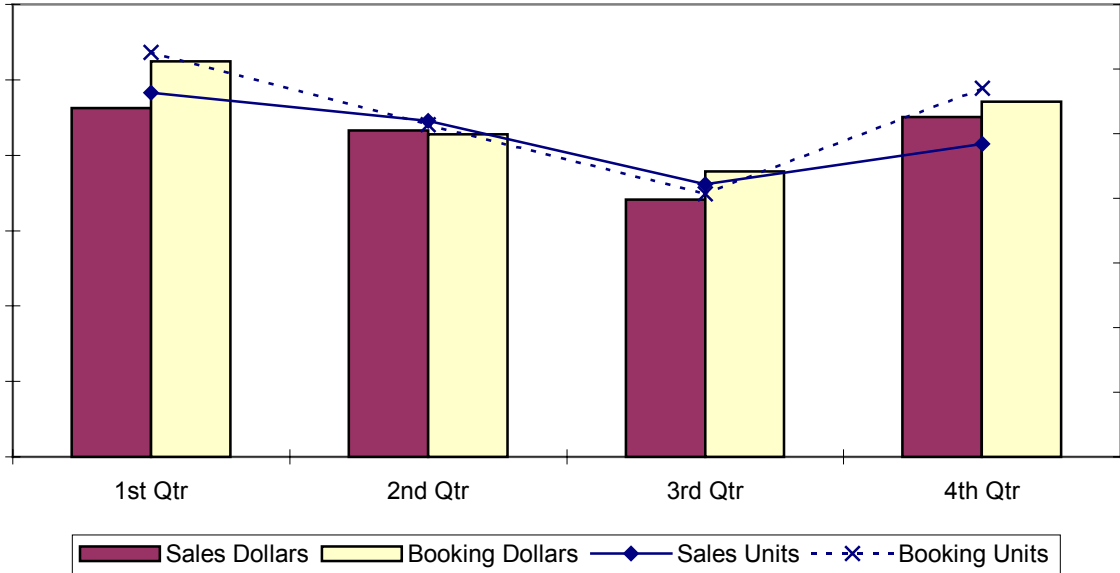
Data Less Sample

CY 2003 Subminiature Slide Switch Prices

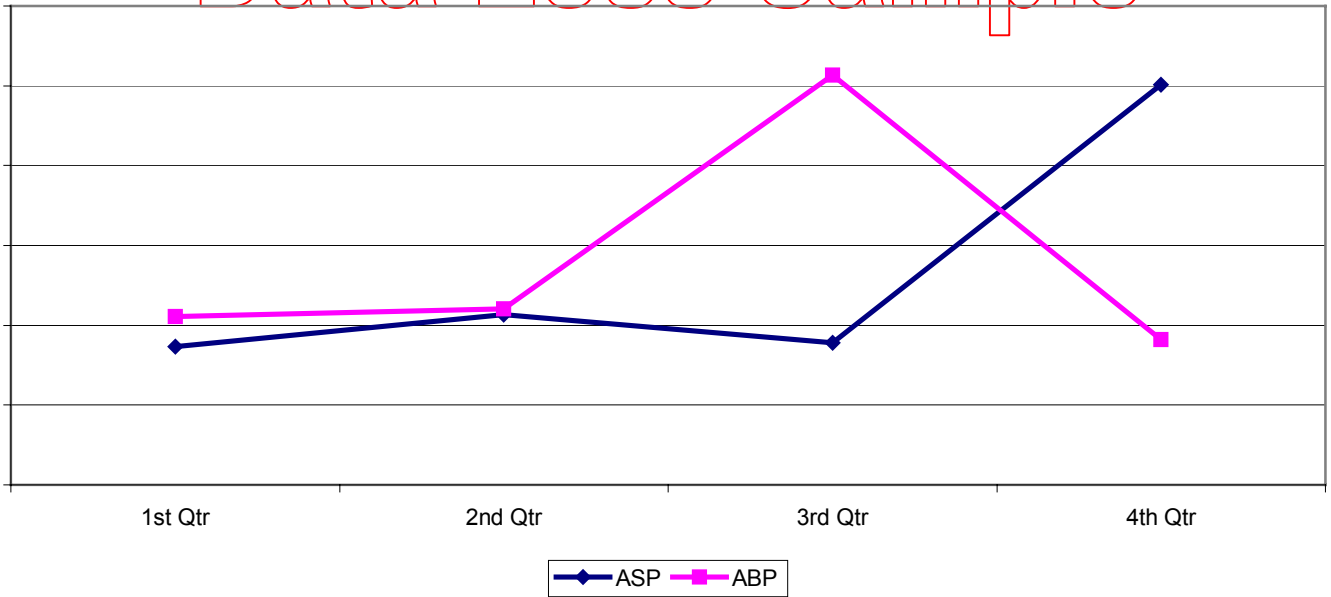


Surface mount slide switches sales decreased in dollars and units through the third quarter. Sales dollars grew at higher rate than units in the last quarter and the selling price rose XX%. Bookings followed a similar pattern. Booking prices peaked in the third quarter.

CY 2003 Total Surface Mount Slide Switch Sales & Bookings

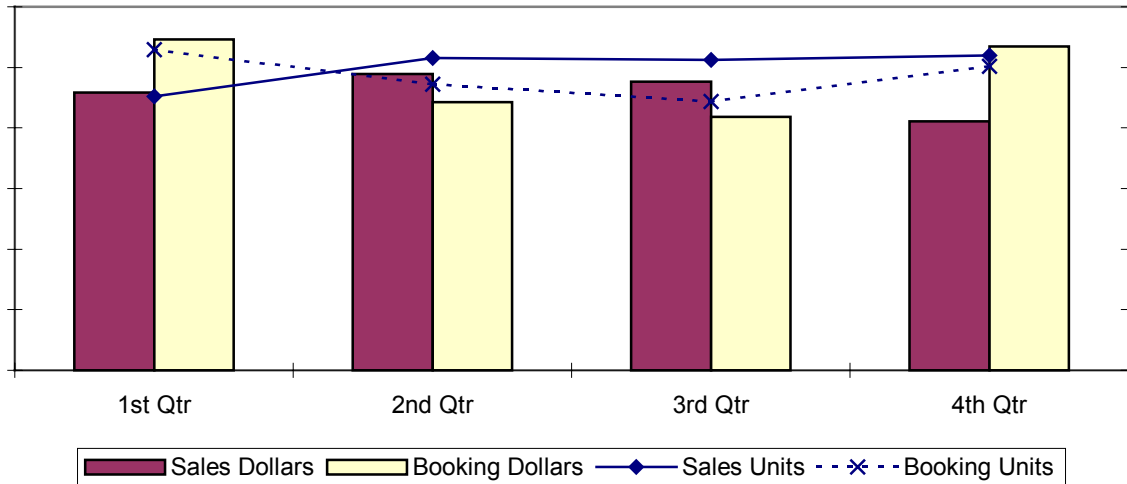


CY 2003 Surface Mount Slide Prices
Data Less Sample

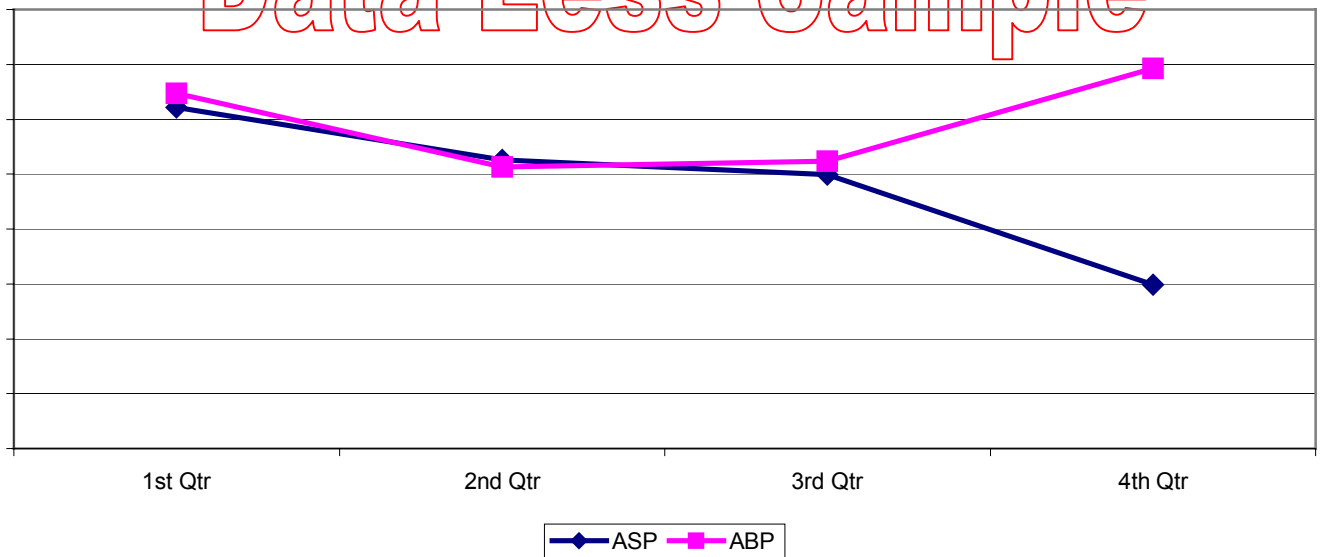


Quarterly sales of miniature slide switches were nearly flat for the first three quarters and fell in the fourth. Sales units rose in the second quarter and remained unchanged for the balance of the year. Average selling prices stepped down in each quarter. Booking dollars started well above sales then ran lower than sales before a XX % rise to finish the year. Booking prices match sales until the fourth quarter when it came in XX % better than the selling price.

CY 2003 Total Miniature Slide Switch Sales & Bookings

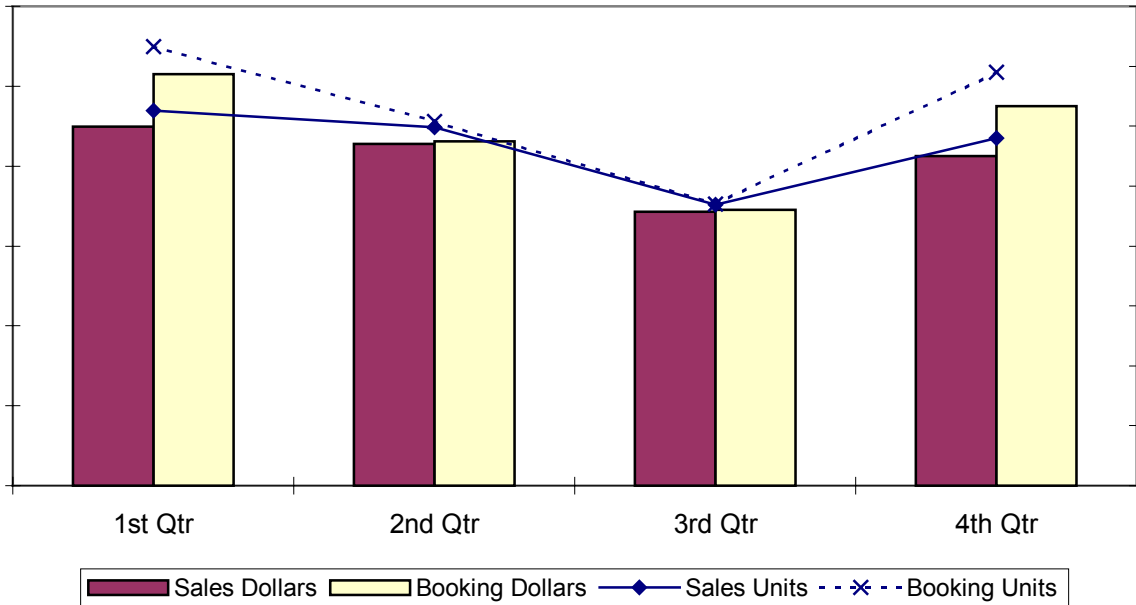


CY 2003 Miniature Slide Switch Prices
Data Less Sample

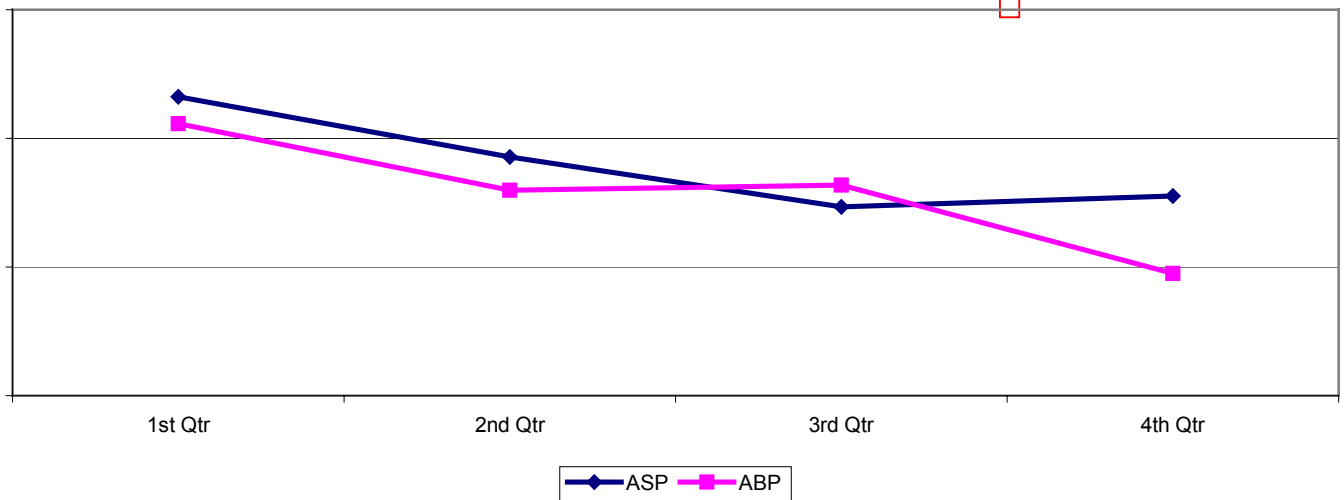


Slight but steady erosion of both the selling and booking prices of standard slide switches occurred last year. Sales and booking dollars and units all stepped lower in each of the first three quarters and improved some in the fourth.

CY 2003 Total Standard/Industrial Slide Switch Sales & Bookings



Data Less Sample



CY 2003 Total Reported Slide Switch Data

<u>Sales</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Surface Mount					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Miniature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Data Loss Sample

CY 2003 Total Reported Slide Switch Data

<u>Bookings</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Surface Mount					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Miniature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Data Loss Sample

<u>Ratios</u>	CY 2003 Total Reported Slide Switch Data				
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Sub Miniature					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Surface Mount					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Miniature					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Standard/Industrial					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Total					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX

Data Less Sample

Snap Action Switch Sales and Bookings for Q4 CY 2003

Total snap action switch sales for the fourth quarter of CY 2003 are \$ XXXX M and XXXX M units with an overall average selling price of \$XXXX. For CY 2003 sales totaled \$ XXXX M and XXXX M units with an average selling price of \$ XXXX. The companies reporting sales were APEM, Cherry, Honeywell, ITT Cannon C&K, Marquardt, Omron Electronics, Saia-Burgess USA, and Tyco. Based on sales from these manufacturers and estimates for manufacturers not yet reporting the estimated market for snap action switches in North America was a \$ XXXX M and XXXX M units and \$ XXXX M and XXXX M units for CY 2003. Bookings for the fourth quarter totaled \$ XXXX M and XXXX M units with an overall average booking price of \$XXXX and \$ XXX M and XXXX M units with an overall average booking price of \$ XXXX for CY 2003.

The two tables below show the breakdown of total sales and bookings for the fourth quarter of CY2003.

Sales by Category for Q4 CY 2003

Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ASP
Subminiature	\$XXXX M	XXX %	XXXX M	XXX %	\$ XXX
Miniature	\$XXXX M	XXX %	XXXX M	XXX %	\$ XXX
Door/Panel Mount	\$XXXX M	XXX %	XXXX M	XXX %	\$ XXX
General Purpose	\$XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$XXXX M	XXX %	XXXX M	XXX%	\$ XXXX

Bookings by Category for Q4 CY 2003

Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ABP
Subminiature	\$XXXX M	XXX %	XXXX M	XXX %	\$ XXX
Miniature	\$XXXX M	XXX %	XXXX M	XXX %	\$ XXX
Door/Panel Mount	\$XXXX M	XXX %	XXXX M	XXX %	\$ XXX
General Purpose	\$XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$XXXX M	XXX %	XXXX M	XXX%	\$ XXXX

Sales for the fourth quarter of CY 2003 were up by XX % in dollars and down XX% in units with a XX % higher ASP compared to the fourth quarter of CY 2002, detailed in the table below. The subminiature, door/panel mount and general-purpose categories all increased in dollars and miniature switches were down. All categories increased or stayed the same in units, except miniatures. Subminiatures realized a very good increase in ASP which more than offset the decreases in the other in the other three categories. Note that the sales for CY 2003 include the four new subscribers. Without them the fourth quarter of CY 2003 would have shown a decrease compared to the fourth quarter of last year. This is not true for bookings. Without the new subscribers fourth quarter bookings did increase compared to last year.

Sales for Q4 CY 2003 Versus Q4 CY 2002

Category	Q4 CY 2003			Q4 CY 2002			% Change		
	Dollars	Units	ASP	Dollars	Units	ASP	Dollars	Units	ASP
Subminiature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Miniature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Door/Panel Mount	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
General Purpose	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Total	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %

Bookings did much better in dollars and decreased in units. Booking dollars were up XX % and units slipped XX %, with an ABP increase of XX% compared to CY 2002's fourth quarter. The table below shows that subminiature, door/panel mount, and general purpose categories advanced in dollars and off-set the loss in miniatures. Door/panel mounts had an impressive gain in units and general purpose also showed improvement. Losses in miniature and subminiature units reduced the overall gains. The average booking prices increased for all categories and subminiature improved by XX%.

Bookings for Q4 CY 2003 Versus Q4 CY 2002

Category	Q4CY 2003			Q4CY 2002			% Change		
	Dollars	Units	ABP	Dollars	Units	ABP	Dollars	Units	ABP
Subminiature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Miniature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Door/Panel Mount	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
General Purpose	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Total	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %

Total sales snap action sales for CY 2003 declined slightly in unit and dollars versus CY 2002. Miniature and general purpose categories had lower sales dollars while door/panel mount and subminiatures went up. Subminiature and miniature units fell as the other two categories rose. The ASP of subminiatures rose XX % and this more than equalized falling prices in other categories.

Sales for CY 2003 Versus CY 2002

Category	CY 2003			CY 2002			% Change		
	Dollars	Units	ASP	Dollars	Units	ASP	Dollars	Units	ASP
Subminiature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Miniature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Door/Panel Mount	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
General Purpose	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Total	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %

Total snap action switch bookings for CY 2003 compared to CY 2002 yield results very similar to the sales comparison. Miniature switches saw lower booking dollars, units, and ABP. Door/panel mount switches had the best improvement followed by subminiature. General purpose remained almost unchanged from prior year.

Bookings for CY 2003 Versus CY 2002

Category	CY 2003			CY 2002			% Change		
	Dollars	Units	ABP	Dollars	Units	ABP	Dollars	Units	ABP
Subminiature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Miniature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Door/Panel Mount	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
General Purpose	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Total	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %

Compared to the third quarter of CY 2003, total sales dollars for the fourth quarter of CY 2003 were up. Sales dollars increased XX % and units dropped XX%. All categories, except miniatures, saw an increase in dollars. Units decreased in all categories except general purpose where there was no change. Average selling prices increased in all categories.

Sales for Q4 CY 2003 Versus Q3 CY 2003

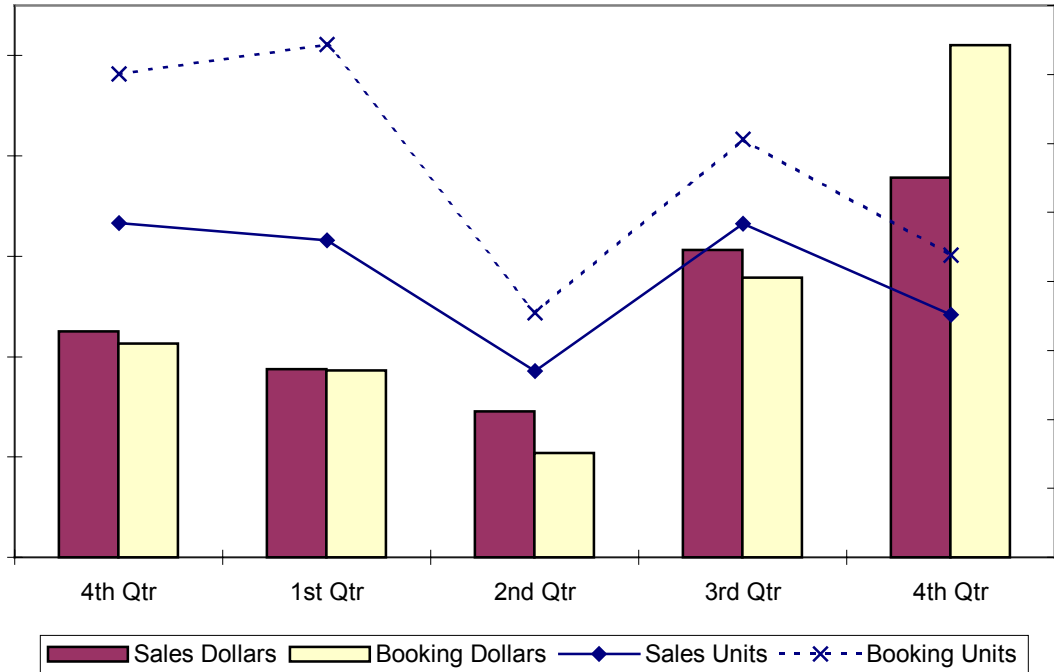
Category	Q4 CY 2003			Q3 CY 2003			% Change		
	Dollars	Units	ASP	Dollars	Units	ASP	Dollars	Units	ASP
Subminiature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Miniature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Door/Panel Mount	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
General Purpose	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Total	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %

Total booking dollars for the fourth quarter of CY 2003 increased more than sales while units decreased slightly more in comparison to the third quarter of CY 2003, as shown below. Here subminiature and door/panel mount switches had the largest increase in dollars. Subminiature and miniature had lower units booked. All categories increased or held average booking prices compared to the previous quarter.

Bookings Q4 CY 2003 Versus Q3 CY 2003

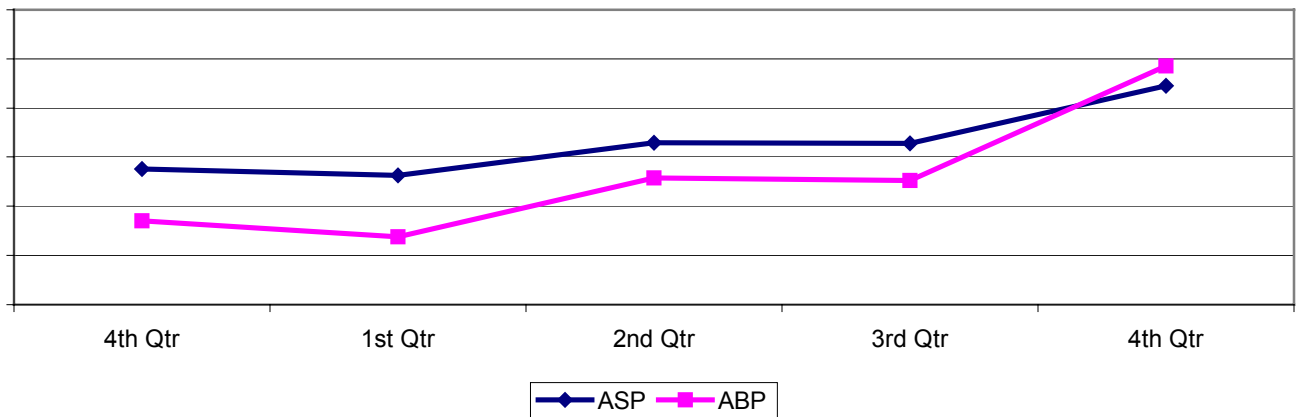
Category	Q4 Quarter CY 2003			Q3 Quarter CY 2003			% Change		
	Dollars	Units	ABP	Dollars	Units	ABP	Dollars	Units	ABP
Subminiature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Miniature	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Door/Panel Mount	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
General Purpose	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %
Total	\$XXXXM	XXXXM	\$ XXXX	\$XXXXM	XXXXM	\$XXXX	XX %	XX %	XX %

CY 2002/2003 Total Snap Action Switch Sales & Bookings



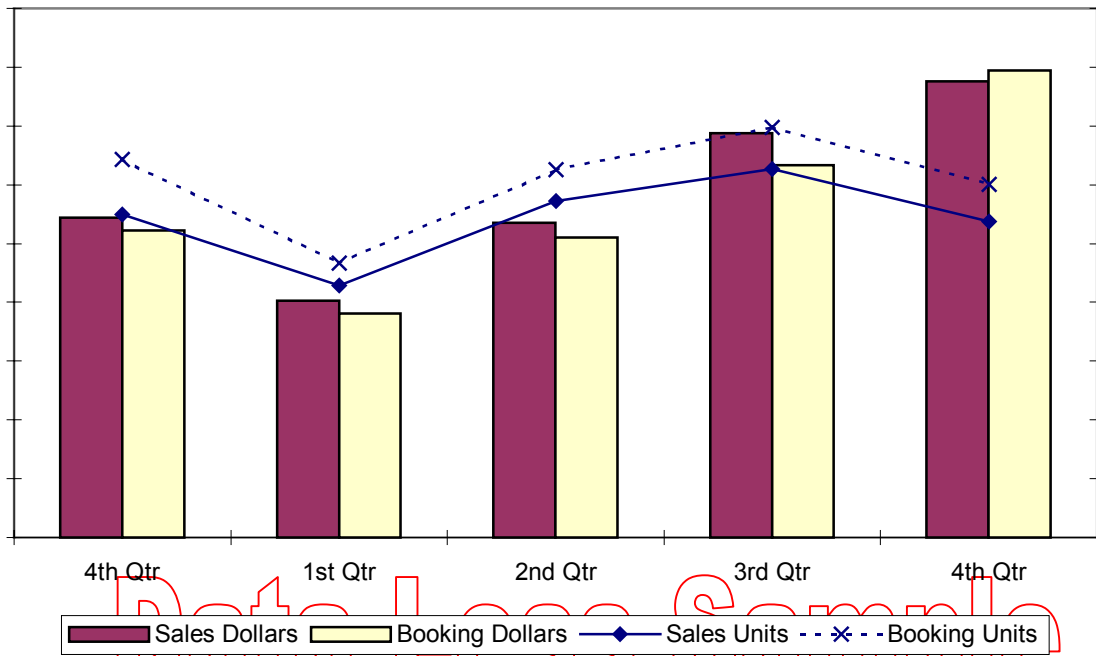
This is the second quarter where sales and booking dollars for the total snap action switch market has experienced an increase. While total sales and booking units declined. This generated a step up for both the ASP and ABP. The overall ABP stands above the selling price for the first time in more than a year, as does booking dollars over sales dollars.

CY 2002/2003 Prices for Total Snap Action Switch Market

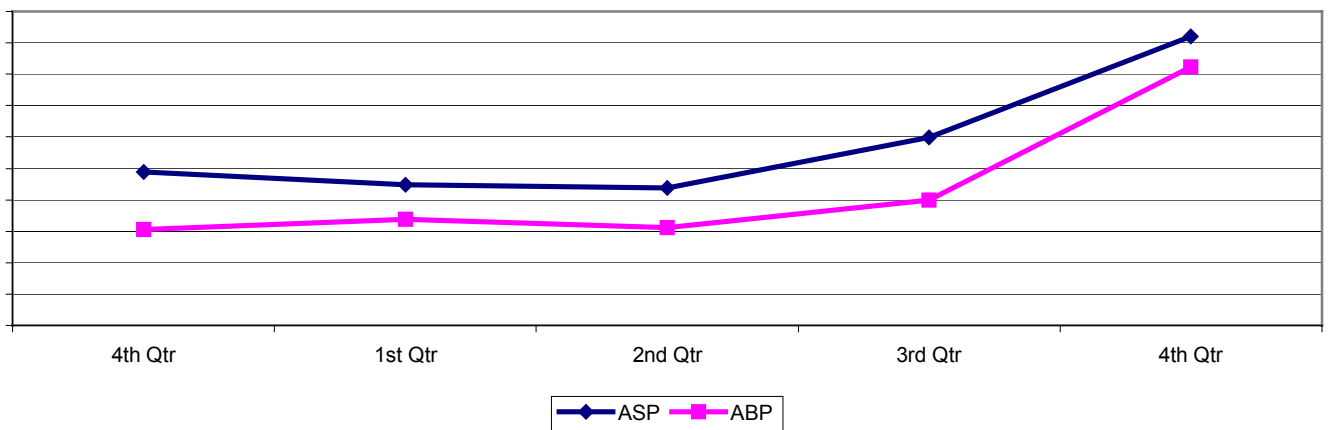


Subminiature switches sales and bookings dollars have increased over the last three quarters and exceed the same period a year ago. Sales and booking units were lower than last quarter causing average selling and booking prices to increase for the second consecutive quarter.

CY 2002/2003 Total Subminiature Snap Action Switch Sales & Bookings

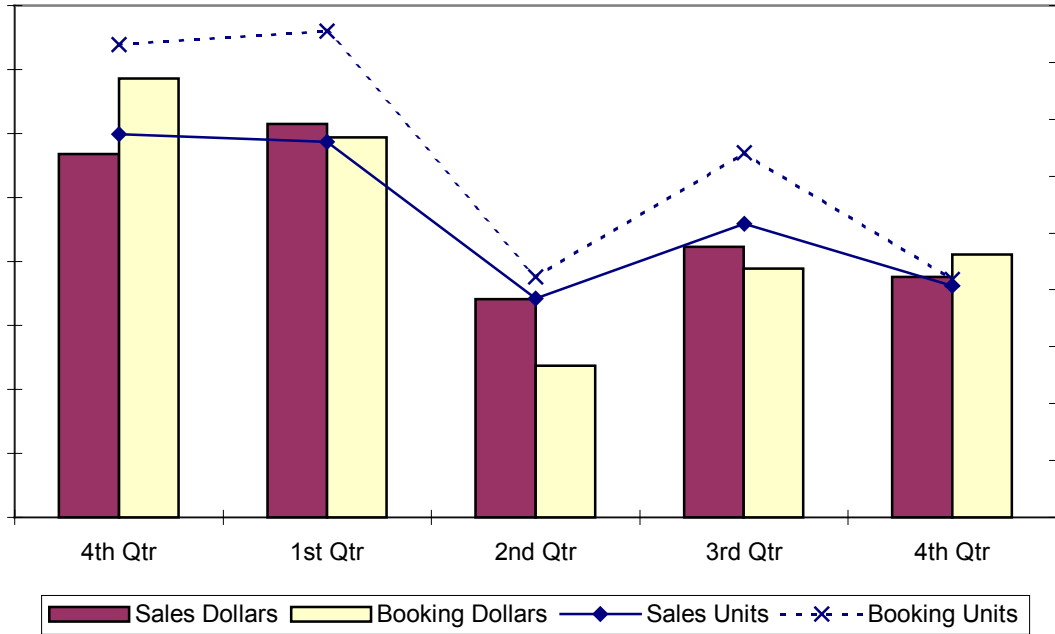


CY2002/2003 Subminiature Snap Action Prices



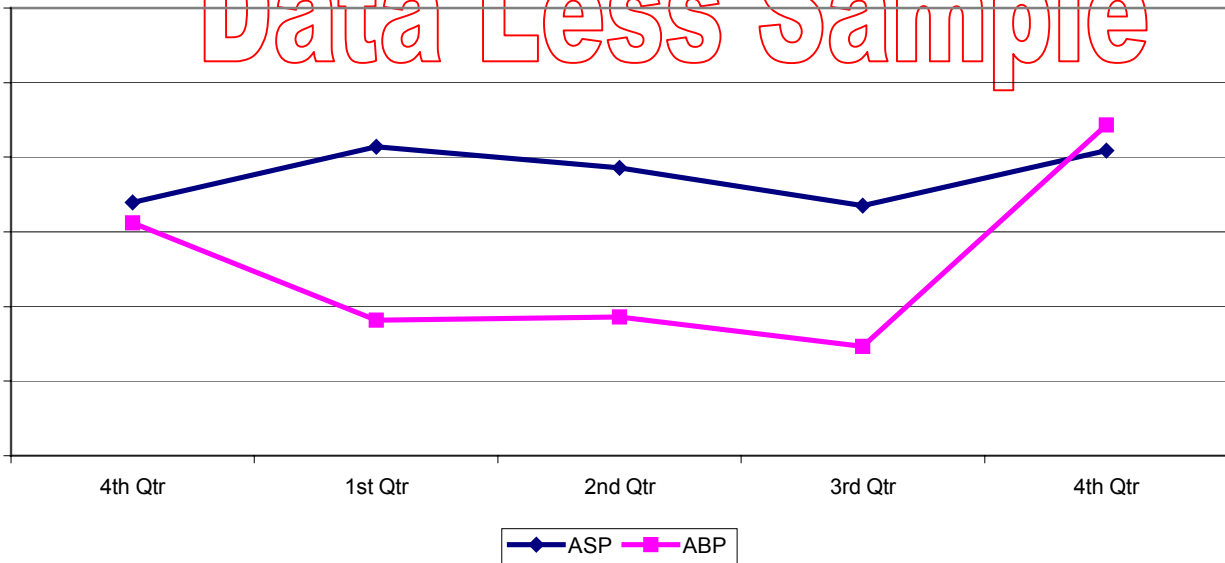
Miniature switch sales dollars fell in the fourth quarter and booking dollars increased. The first quarter in CY 2003 where booking dollars exceeded sales dollars. Booking and sales units declined and average prices both went up. The booking price now exceeds the selling price.

CY 2002/2003 Total Miniature Snap Action Switch Sales & Bookings



CY 2002/2003 Miniature Snap Action Prices

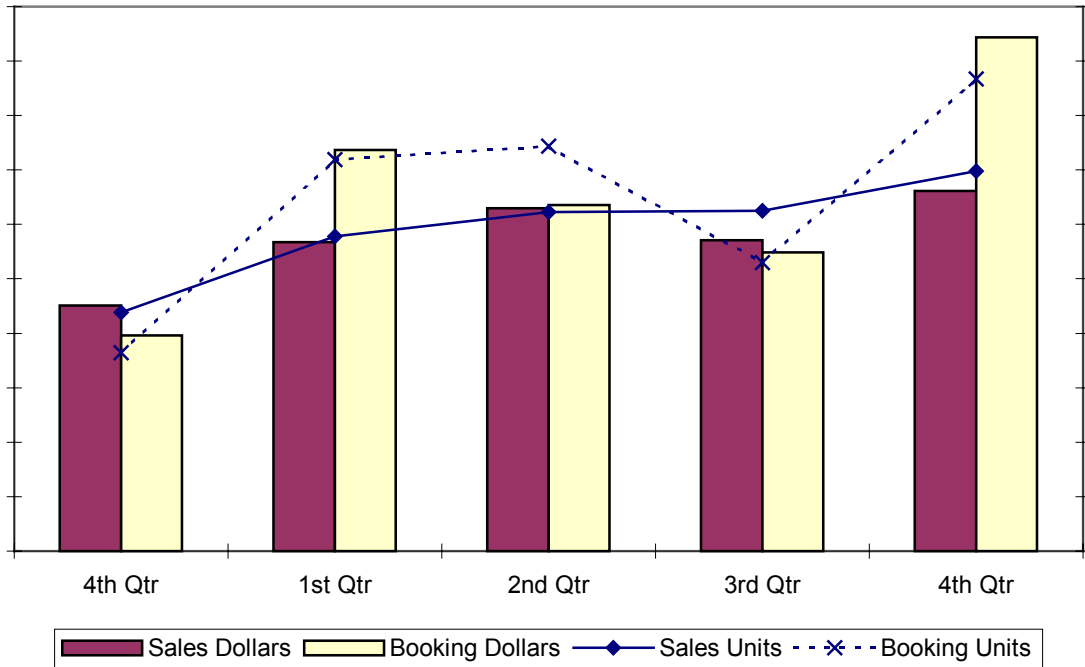
Data Less Sample



Door/panel mount sales and booking dollars recovered from their decline last quarter. The XX% increase in booking dollars drove the same increase for the overall market. The average selling and booking prices stepped up slightly as sales and booking units rose less aggressively compared to

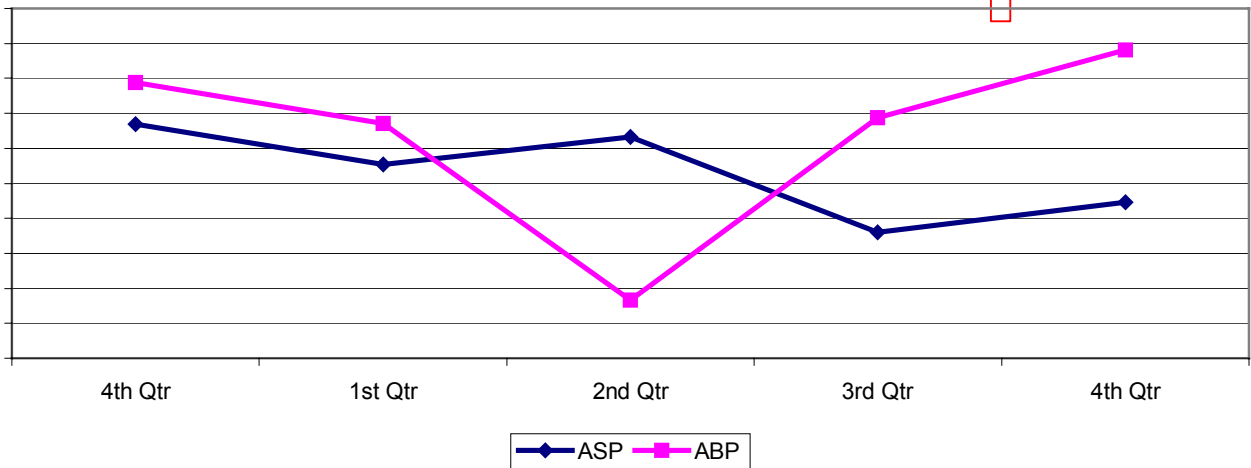
dollars.

CY 2002/2003 Total Door/Panel Mount Snap Action Switch Sales & Bookings



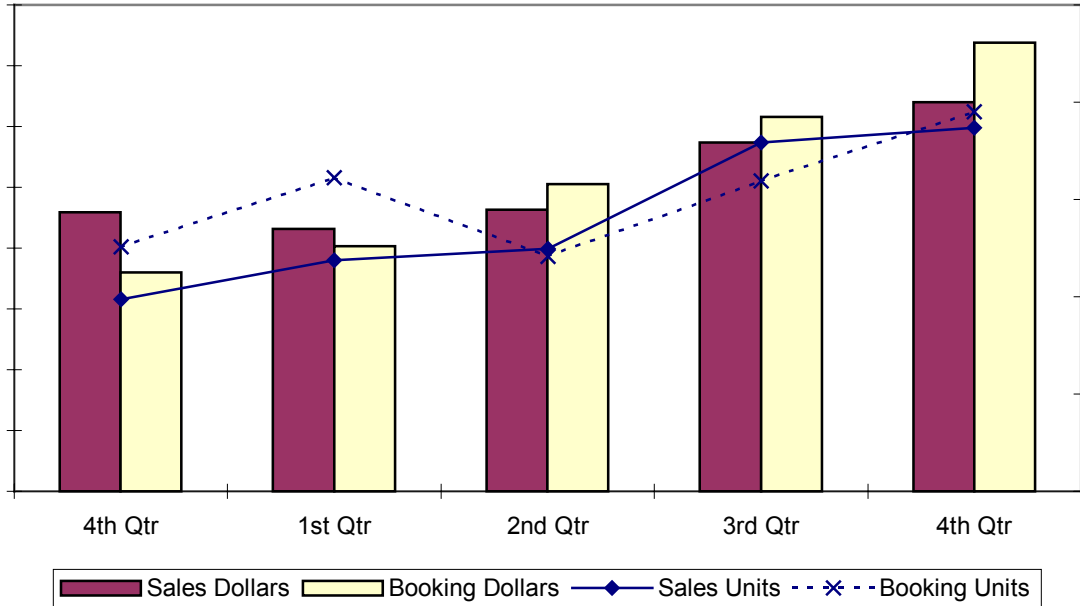
CY 2002/2003 Panel/Door Mount Snap Action Switch Prices

Data Less Sample

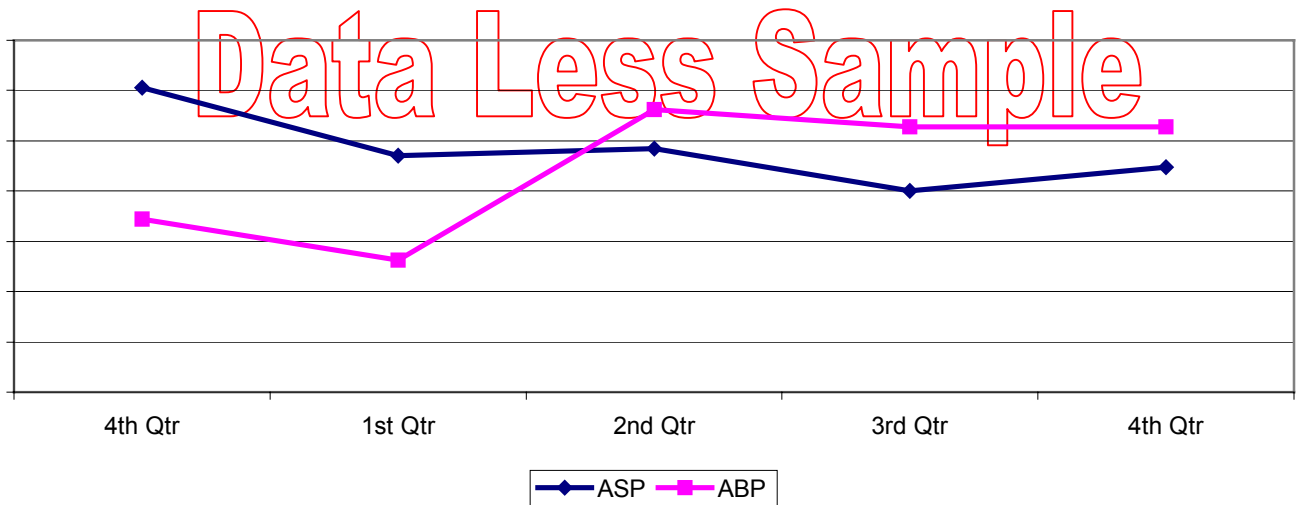


Sales and booking dollars for general-purpose switches turned in a third consecutive quarter of growth. Sales units in this category have grown for the fourth consecutive quarter. Booking dollars remain higher than sales and booking units also exceeded sales. The average selling price improved slightly and the booking price held from last quarter.

CY 2002/2003 Total General Purpose Snap Action Switch Sales & Bookings

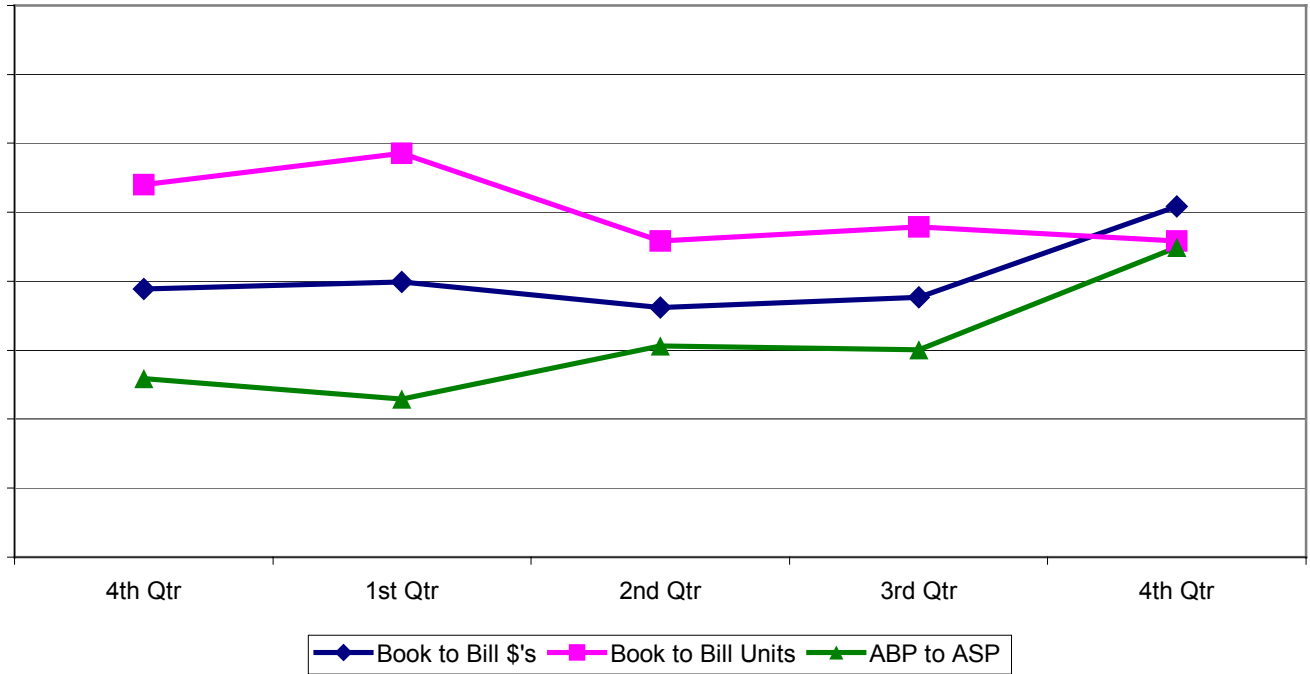


CY 2002/2003 General Purpose Snap Action Switch Prices



All ratios for the total snap action switch market came in above XX for the first time since “Switch Tracks” started reporting with data from the first quarter of 2002. The ABP-to-ASP ratio set a new high point last quarter. Book-to-Bill dollar ratio is at the previous high set in the first quarter of 2002.

CY 2002/2003 Ratios for Total Snap Action Switch Market



Data Less Sample

Q4 CY 2003 Total Reported Snap Action Switch Data

<u>Sales</u>	4th Qtr	<u>Bookings</u>	4th Qtr	<u>Ratios</u>	4th Qtr
Subminiature		Subminiature		Sub Miniature	
Sales Dollars	\$XXXXXXXXXX	Booking Dollars	\$XXXXXXXXXX	Book to Bill \$'s	XXXX
Sales Units	XXXXXXXXXX	Booking Units	XXXXXXXXXX	Book to Bill Units	XXXX
ASP	\$XXXX	ABP	\$XXXX	ABP to ASP	XXXX
Miniature		Miniature		Miniature	
Sales Dollars	\$XXXXXXXXXX	Booking Dollars	\$XXXXXXXXXX	Book to Bill \$'s	XXXX
Sales Units	XXXXXXXXXX	Booking Units	XXXXXXXXXX	Book to Bill Units	XXXX
ASP	\$XXXX	ABP	\$XXXX	ABP to ASP	XXXX
Door/Panel Mount		Door/Panel Mount		Door/Panel Mount	
Sales Dollars	\$XXXXXXXXXX	Sales Dollars	\$XXXXXXXXXX	Book to Bill \$'s	XXXX
Sales Units	XXXXXXXXXX	Sales Units	XXXXXXXXXX	Book to Bill Units	XXXX
ASP	\$XXXX	ABP	\$XXXX	ABP to ASP	XXXX
General Purpose		General Purpose		General Purpose	
Sales Dollars	\$XXXXXXXXXX	Booking Dollars	\$XXXXXXXXXX	Book to Bill \$'s	XXXX
Sales Units	XXXXXXXXXX	Booking Units	XXXXXXXXXX	Book to Bill Units	XXXX
ASP	\$XXXX	ABP	\$XXXX	ABP to ASP	XXXX
Totals		Totals		Total	
Sales Dollars	\$XXXXXXXXXX	Booking Dollars	\$XXXXXXXXXX	Book to Bill \$'s	XXXX
Sales Units	XXXXXXXXXX	Booking Units	XXXXXXXXXX	Book to Bill Units	XXXX
ASP	\$XXXX	ABP	\$XXXX	ABP to ASP	XXXX

Data Loss Sample

Tact Switch Sales and Bookings for CY 2003

Total reported sales for tact switches are \$ XXXX M and XXXX M units with an overall ASP of \$XXXX per switch. The companies reporting sales for CY2002 are APEM, Grayhill, ITT Cannon C&K, NKK, Omron, and Tyco. Based on the sales of these manufacturers and estimates for manufacturers not yet reporting the total North American tact switch market is estimated at \$ XXXX M and XXXX M units. Total reported bookings for the same period are \$ XXXX M and XXXX M units with an overall ABP of \$XXXX. Total booking dollars exceeded sales by XX % while booked units topped sales by XX% resulting in XX% lower booking price versus selling price.

Sales and bookings are reported by category and quarter for CY 2003. The detail of this and the resulting book-to-bill and ABP-to-ASP ratios are listed at the end of this section. Tact switches are

divided into two product subcategories. These are through hole and surface mount. Appendix “A” lists each reporting manufacturer and where each of their tact switch families are placed.

The two tables below show the breakdown of total reported sales and bookings for CY 2002 by category:

Sales by Category

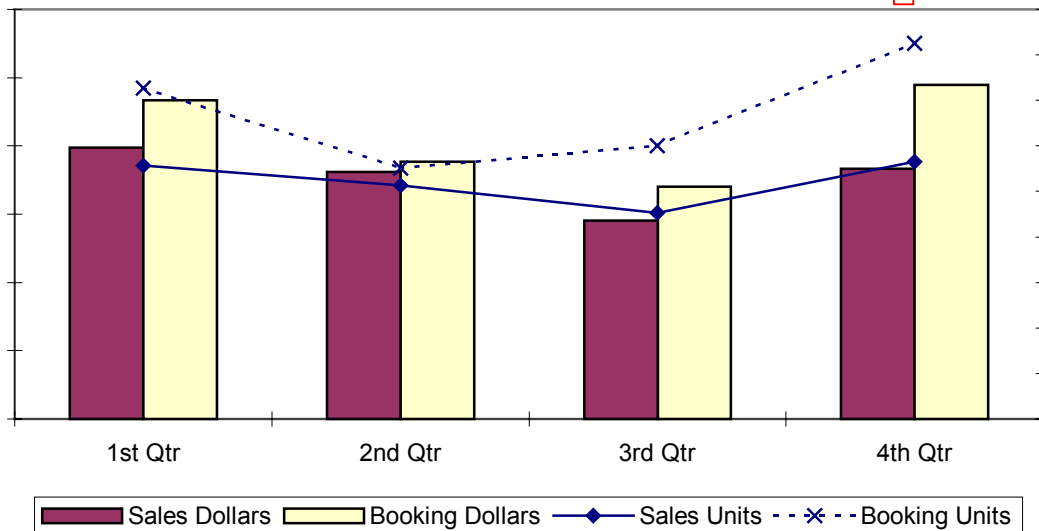
Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ASP
Through Hole	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Surface Mount	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX %	XXXX M	XXX%	\$ XXXX

Bookings by Category

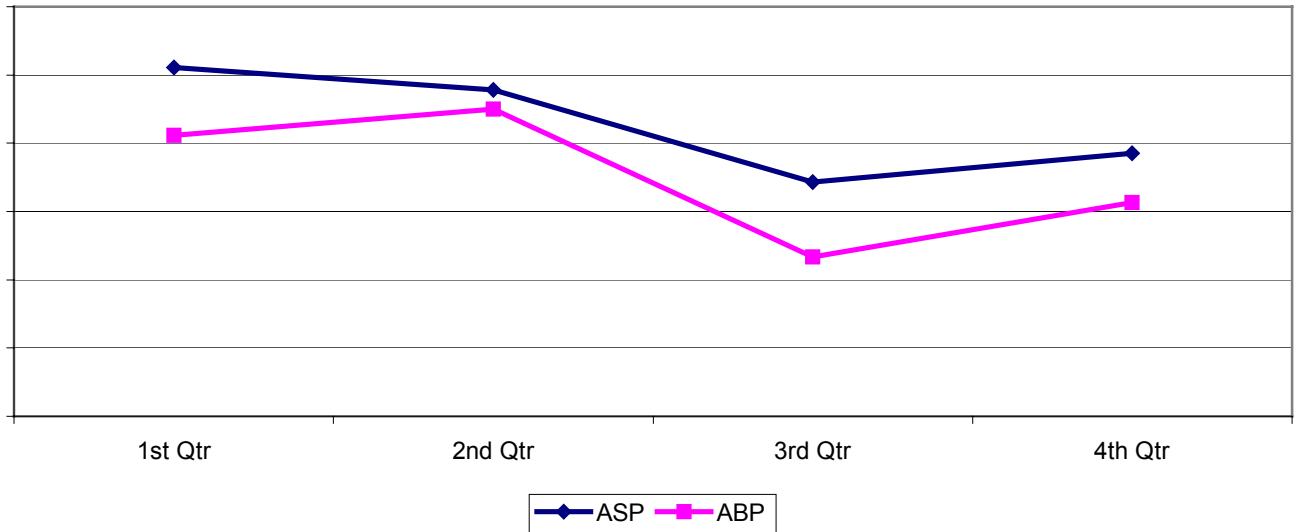
Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ABP
Through Hole	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Surface Mount	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX %	XXXX M	XXX%	\$ XXXX

The chart below shows the quarterly sales and bookings in units and dollars for the reported total tact switch market in CY 2003. Sales dollars, sales units, and booking dollars declined through the first three quarters then increased XX%, XX% and XX% respectively. Booking units bottomed in the second quarter and increased over the last half of the year.

Data Less Sample

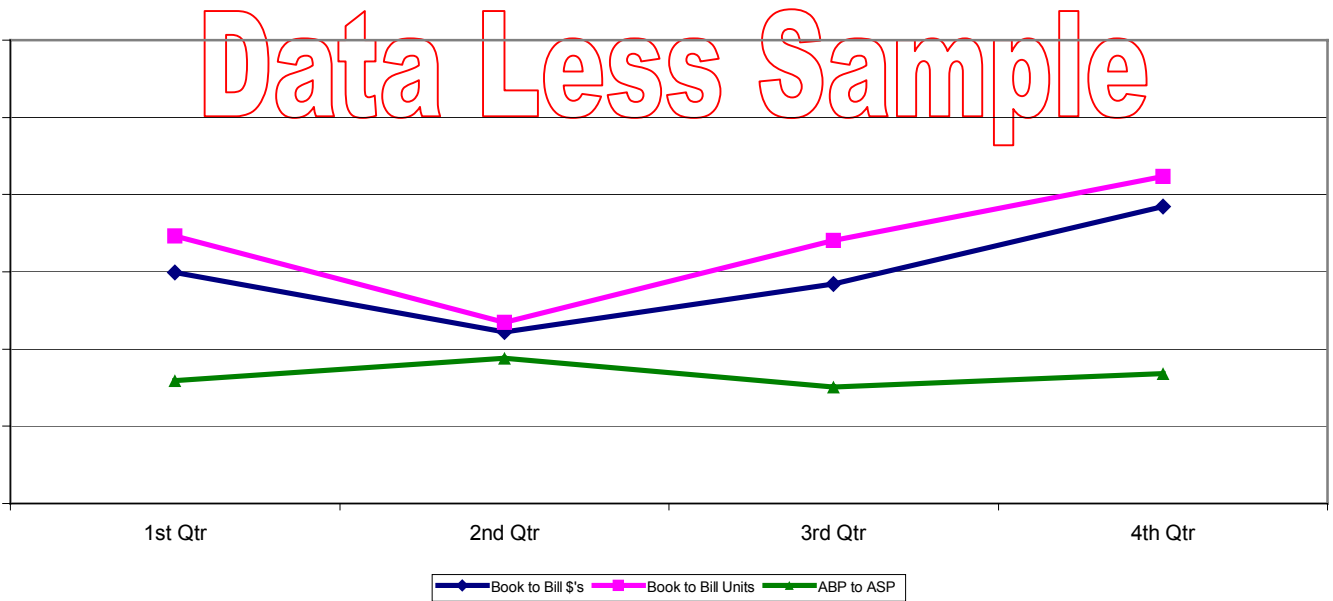


CY 2003 Prices for Total Tact Switch Market



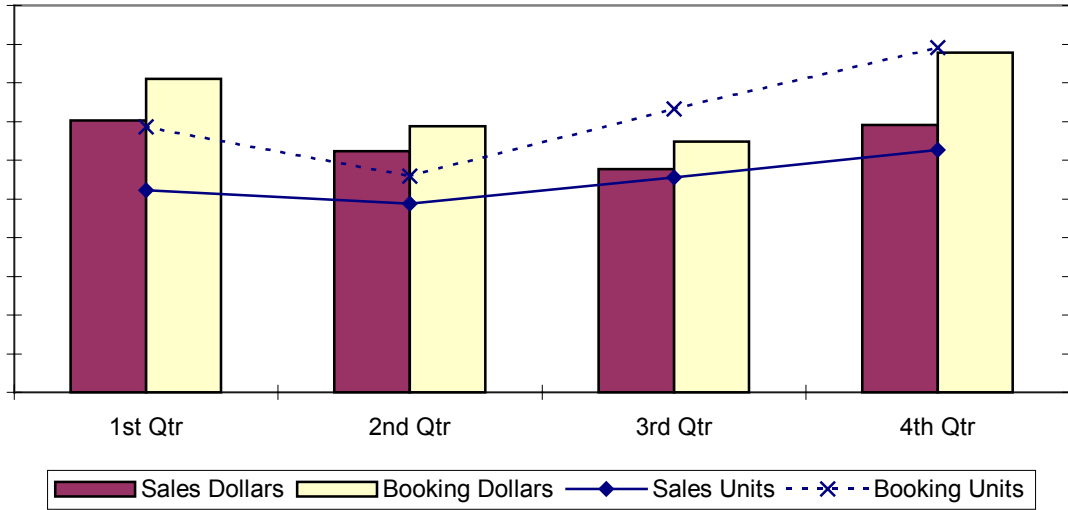
Average selling prices for tact switches trended down last year. Book-to-bill ratios remained above XX and ended the year near XX. ABP-to-ASP stayed below XX for the year.

CY 2003 Ratios for Total Tact Switch Market

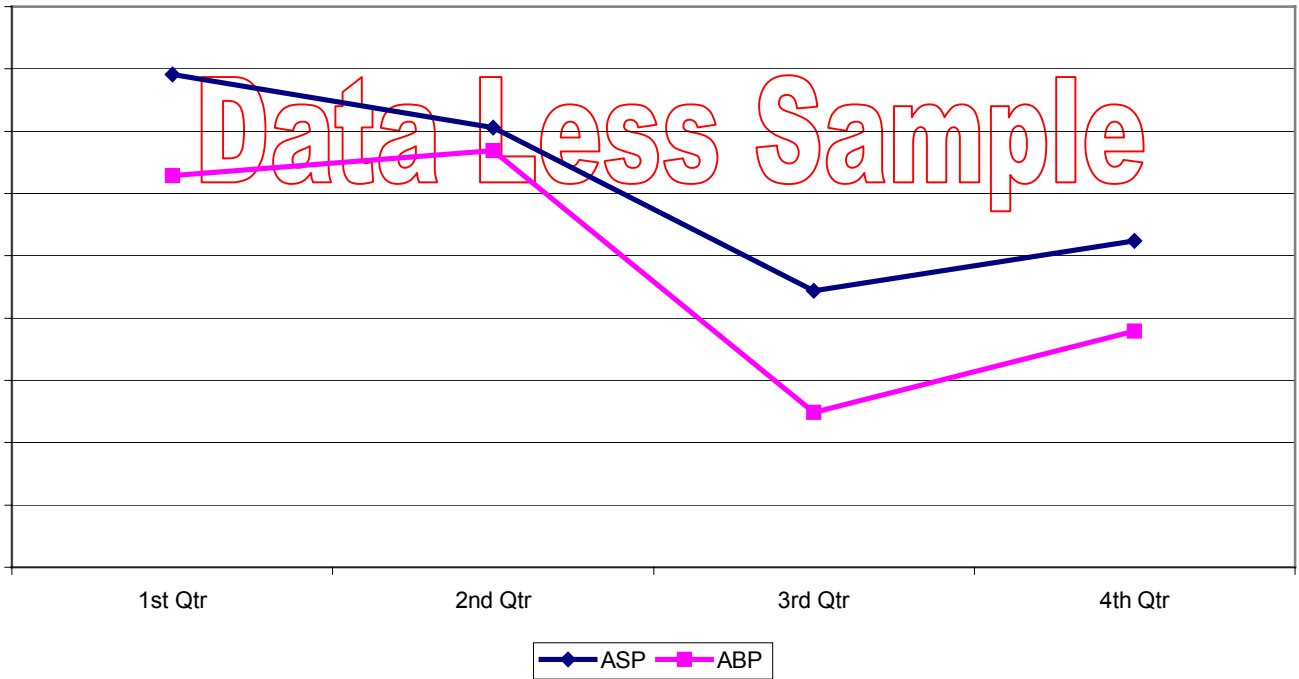


Through hole tact switch sales and booking dollars receded in quarters two and three. Then finished with an increase. Units found their low in the second period and climbed from there. This caused a sharp step down in prices in third quarter with a bounce back in the fourth.

CY 2003 Total Through Hole Tact Switch Sales & Bookings

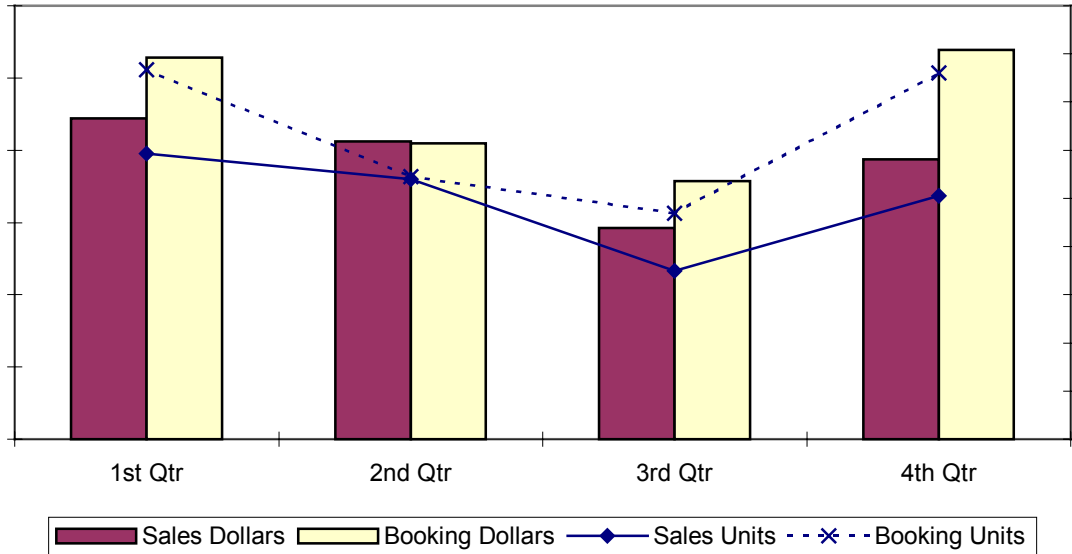


CY 2003 Through Hole Tact Switch Prices



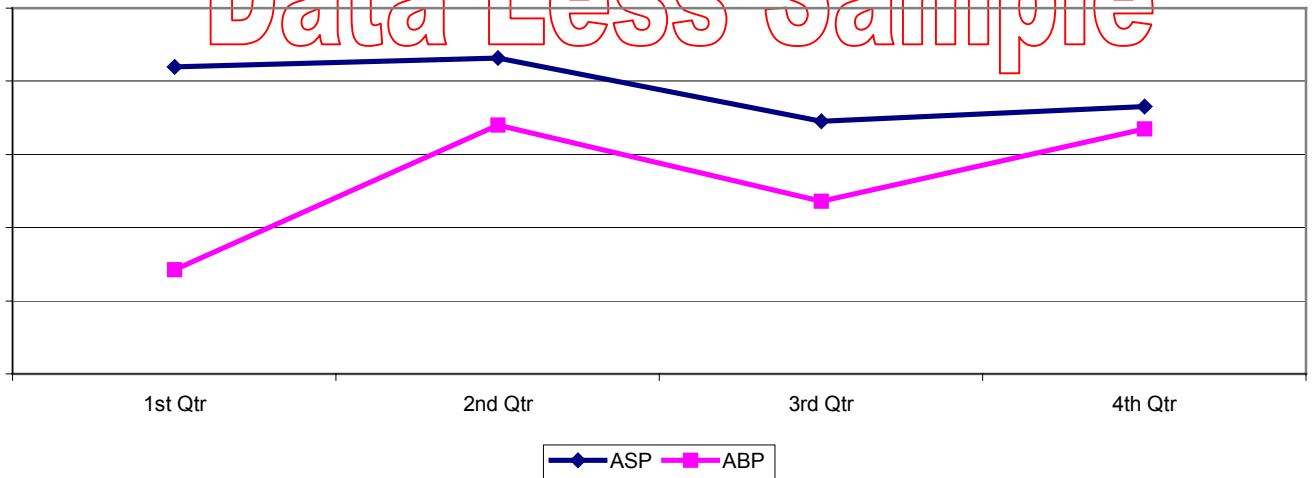
Quarterly results for surface mount tact switches are similar to through hole except sales and booking units hit lows in the third quarter versus the second. Average selling prices trended down slightly while booking prices moved up.

CY 2003 Total Surface Mount Tact Switch Sales & Bookings



CY 2003 Surface Mount Tact Switch Prices

Data Less Sample



CY 2003 Total Reported Tact Switch Data

<u>Sales</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Through Hole					
Sales Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Sales Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Surface Mount					
Sales Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Sales Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Sales Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Sales Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

CY 2003

<u>Bookings</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Data Less Sample					
Through Hole					
Booking Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Booking Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Surface Mount					
Booking Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Booking Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Booking Dollars	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX	\$XXXXXXXXXX
Booking Units	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

<u>Ratios</u>	CY 2003 Total Reported Tact Switch Data				
	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Through Hole					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Surface Mount					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Total					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX

Toggle Switch Sales and Bookings for CY 2003

Total reported sales for toggle switches are \$ XXXX M and XXXX M units with an overall ASP of \$ XXXX per switch. The companies reporting sales for CY2003 are APFM, Grayhill, Honeywell, ITT Cannon C&K, Marquardt, NKK, and Tyco. Based on the sales of these manufacturers and estimates for manufacturers not yet reporting the total North American snap action switch market is estimated at \$ XXXX M and XXXX M units. Total reported bookings for the same period are \$ XXXX M and XXXX M units with an overall ABP of \$ XXXX. Total sales exceeded booking dollars by XX% and units are about equal resulting in a XX% lower booking price versus selling price.

Sales and bookings are reported by category and quarter for CY 2003. The detail of this and the resulting book-to-bill and ABP-to-ASP ratios are listed at the end of this section. Toggle switches are divided into three product subcategories. These are subminiature, miniature, and standard/industrial. Appendix "A" lists each reporting manufacturer and where each of their toggle switch families are placed.

The two tables below show the breakdown of total reported sales and bookings for CY 2002 by category:

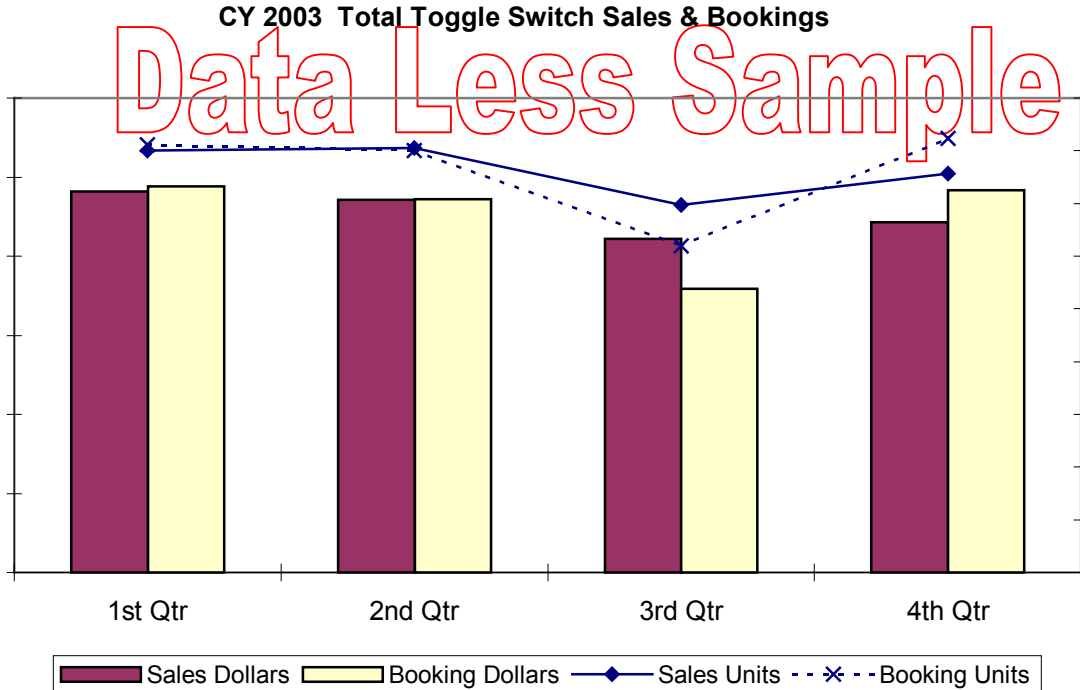
Sales by Category

Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ASP
Subminiature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Miniature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX%	XXXX M	XXX %	\$ XXXX

Bookings by Category

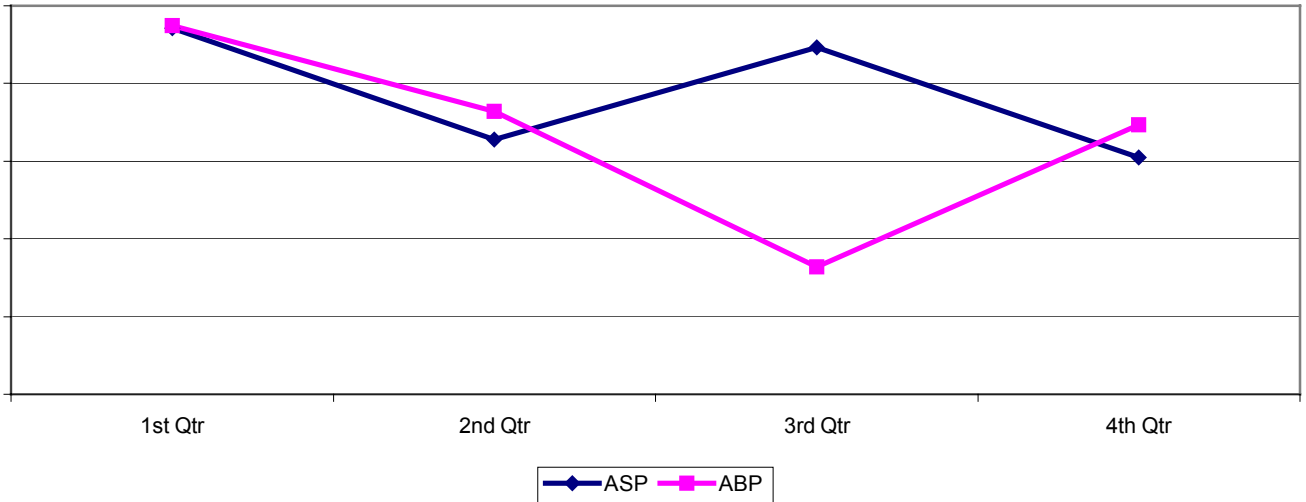
Category	Dollars	% Of Total Dollars	Units	% Of Total Units	ABP
Subminiature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Miniature	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Standard/Industrial	\$ XXXX M	XXX %	XXXX M	XXX %	\$ XXXX
Total	\$ XXXX M	XXX%	XXXX M	XXX %	\$ XXXX

The chart below shows the sales and bookings in units and dollars for the reported total toggle switch market in CY 2003.



All measures of the total toggle switch market remained steady for the first half of the year. They all took a dip in the third quarter and recovered in the fourth. Booking measures came back to or near first half levels and sales came up short of those levels.

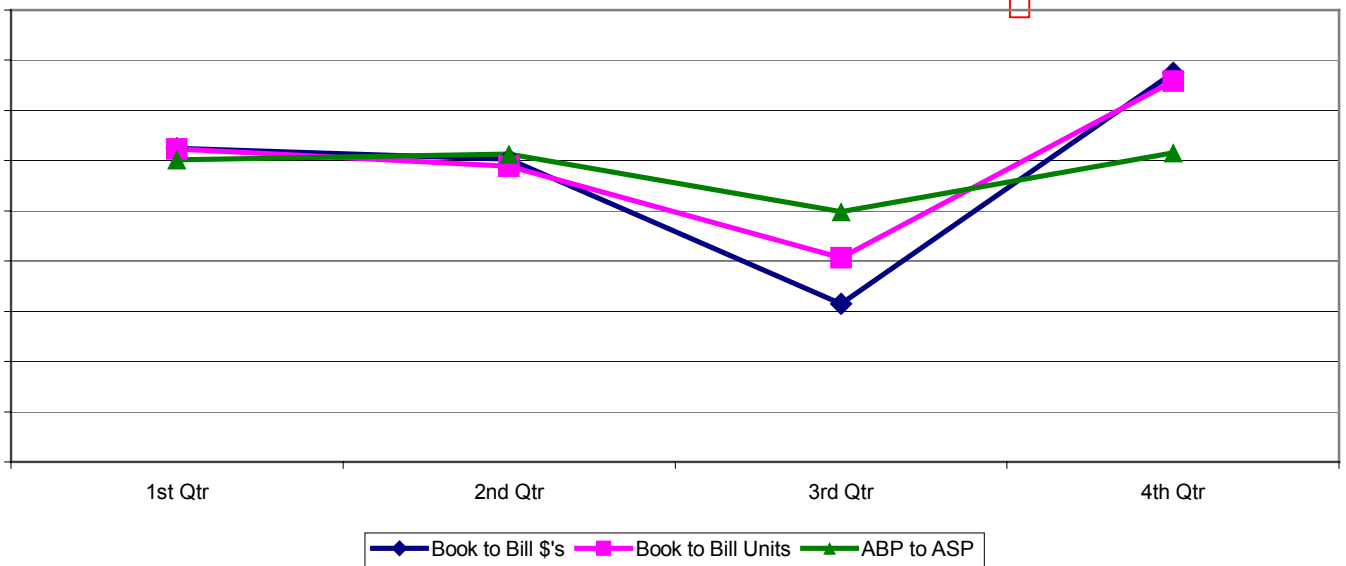
CY 2003 Prices for Total Toggle Switch Market



Average selling prices went up and down but generally headed lower. Booking prices lost ground through the third period and improved in the fourth. Ratios stayed near XX in the first half dipped in the third quarter and rose above XX in the fourth.

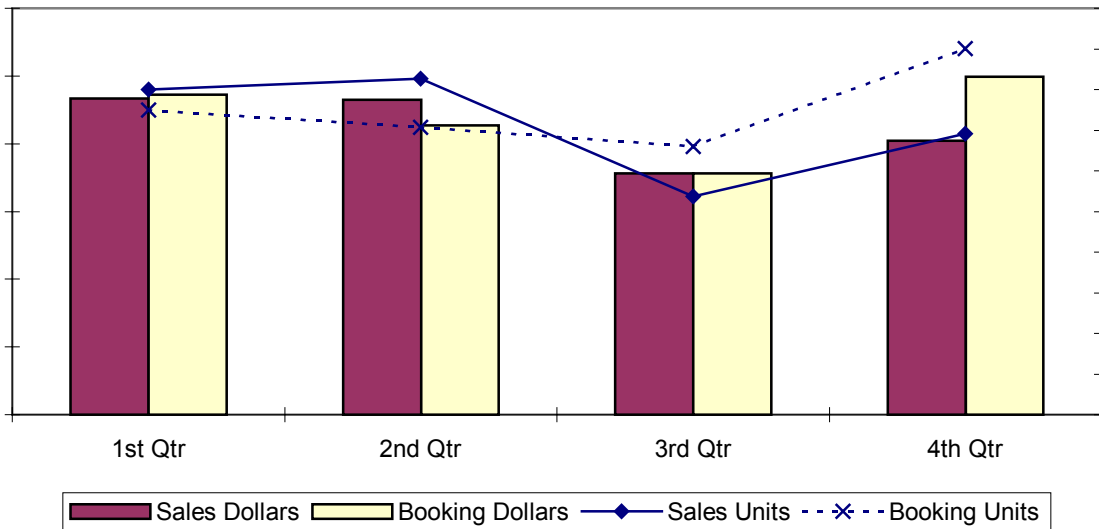
Data Less Sample

CY 2003 Ratios for Total Toggle Switch Market

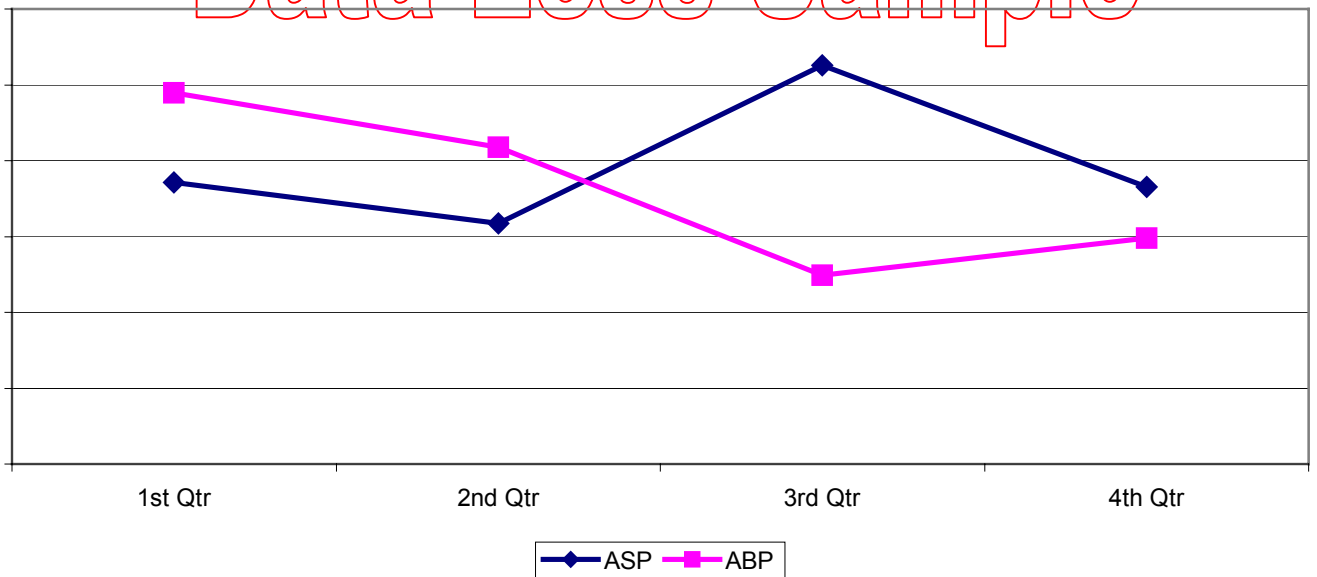


Sales dollars for subminiature toggles turned down in the third quarter to equal booking dollars that declined in the second and third quarters. Booking dollars returned close to first levels at year end and sales dollars improved but could not regain its loss. Booking prices went down for the year. Selling prices went down and up but ended almost unchanged for the year.

CY 2003 Total Subminiature Toggle Switch Sales & Bookings

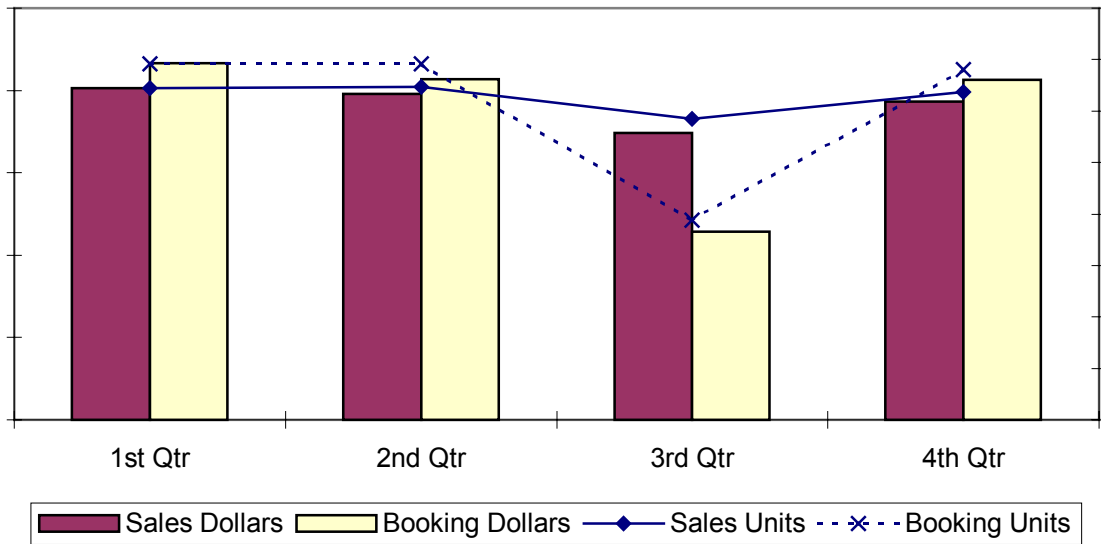


CY 2003 Subminiature Toggle Switch Prices
Data Less Sample

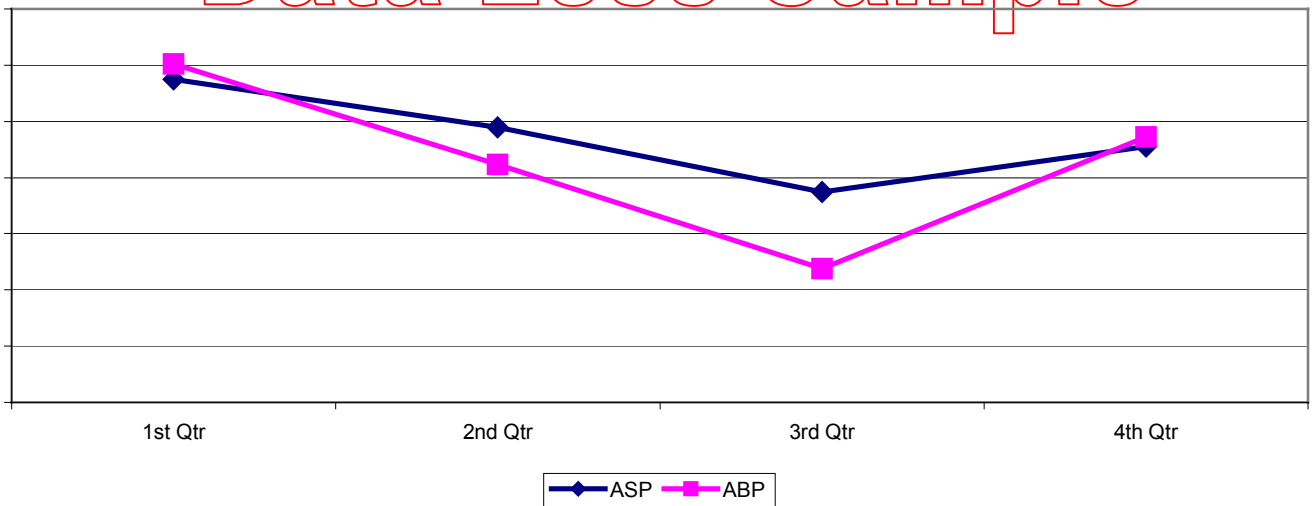


Miniature toggle switches experienced a drop of nearly XX % in booking dollars in the third quarter. Bookings came right back the next quarter. Sales followed a similar but less dramatic trend. Selling and booking prices decreased over the first 3 quarters and rose a bit in the fourth, both ending lower than the first quarter.

CY 2003 Total Miniature Toggle Switch Sales & Bookings

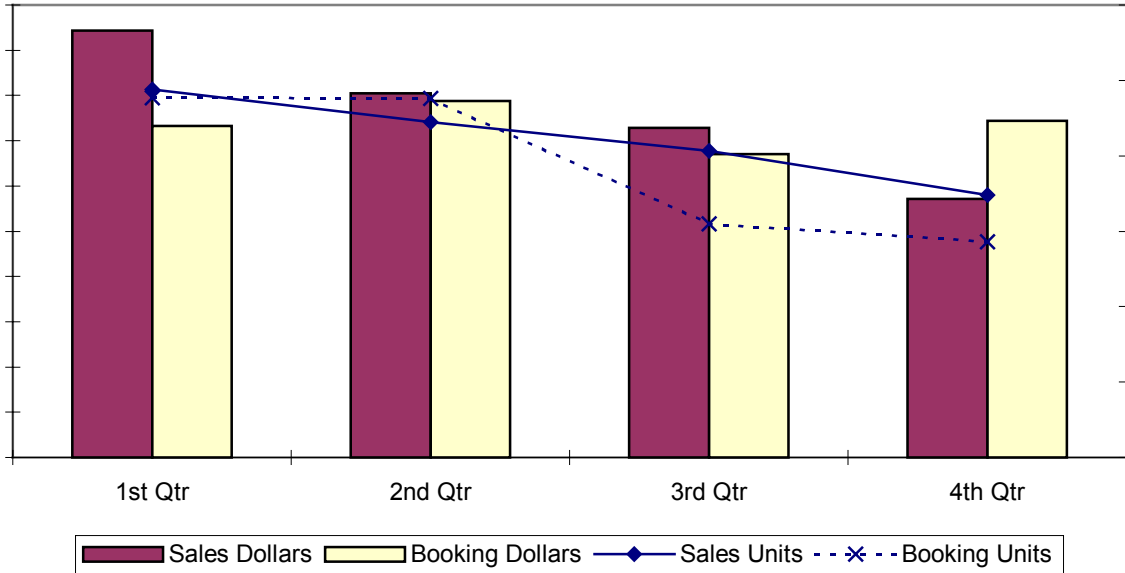


CY 2003 Miniature Toggle Prices
Data Less Sample

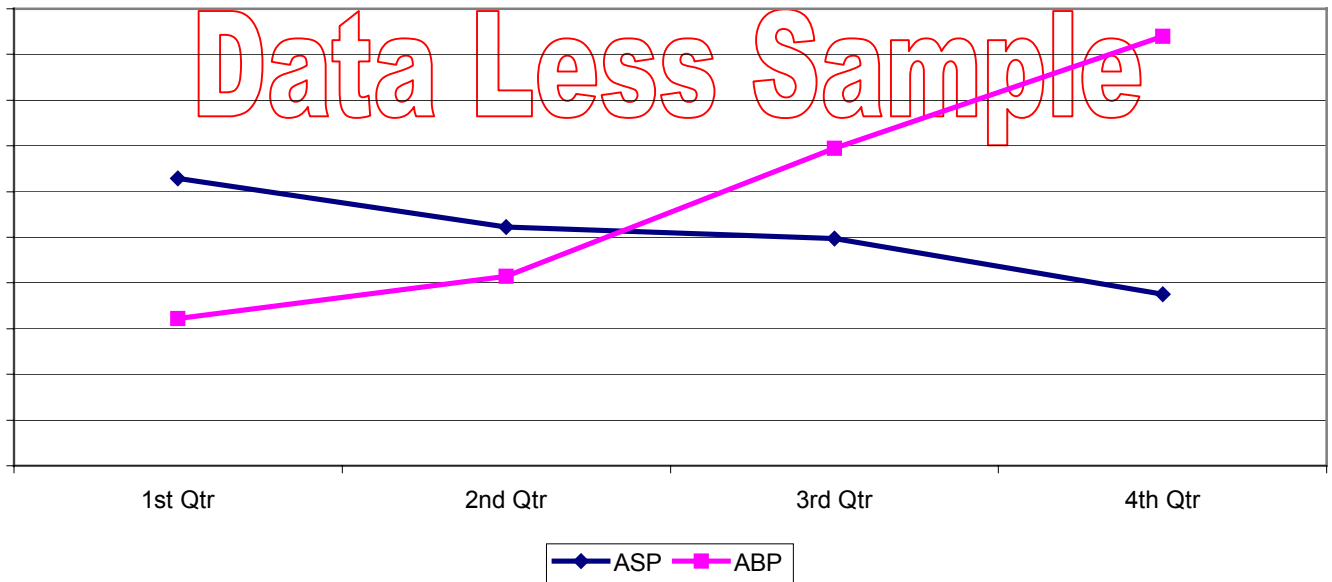


Standard toggles lost sales dollars and units throughout CY 2003. Booking dollars oscillated up and down as booking units declined. Booking prices rose significantly finishing the year 30% above the selling price.

CY 2003 Total Standard/Industrial Toggle Switch Sales & Bookings



CY 2003 Standard/Industrial Toggle Switch Prices



CY 2003 Total Reported Toggle Switch Data

<u>Sales</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Miniature					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Sales Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Sales Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ASP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Data Loss Sample

CY 2003 Total Reported Toggle Switch Data

<u>Bookings</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Miniature					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Standard/Industrial					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX
Totals					
Booking Dollars	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX	\$XXXXXXXX
Booking Units	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX	XXXXXXXX
ABP	\$XXXX	\$XXXX	\$XXXX	\$XXXX	\$XXXX

Data Loss Sample

CY 2003 Total Reported Toggle Switch Data

<u>Ratios</u>	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	CY 2003 Total
Subminiature					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Miniature					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Standard/Industrial					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX
Total					
Book to Bill \$'s	XXXX	XXXX	XXXX	XXXX	XXXX
Book to Bill Units	XXXX	XXXX	XXXX	XXXX	XXXX
ABP to ASP	XXXX	XXXX	XXXX	XXXX	XXXX

Data Less Sample

Industry News

Elektron PLC/Arcoelectric PLC

Elektron PLC
24 December 2003

Acquisition of business and assets of Arcoelectric (Holdings) plc

Elektron Plc (the 'Company' or 'Elektron'), the AIM quoted components and electronics group, announces that it has acquired the trade and certain assets from the Receiver of Arcoelectric (Holdings) Plc ('Holdings') and Arcoelectric Switches Plc ('Switches'), together ('Arcoelectric'). Arcoelectric is a manufacturer of electromechanical components.

The Acquisition

Elektron has acquired from the Receiver the plant, machinery, fixtures, fittings, tooling and stocks sufficient to continue the business of Switches. Switches operates from an 80,000 square foot facility in Surrey employing 170 staff. The Company manufactures appliance switches, indicator lights and fuseholders for use in domestic appliances and industrial applications.

Switches reported an operating profit of £19,000 on turnover of £13.9 million in its last audited accounts to 31 December 2001. Unaudited accounts for the year ended 31 December 2002 show an operating loss of £242,000 on sales of £14.2 million. In the ten months to 31 October 2003, Switches management accounts show an operating loss of £1.4 million on sales of £12.8 million. Since the appointment of the Receiver, Switches' annual salary costs have been reduced by £2.0 million. The premises are being leased for a period of ten years with a five-year break clause at an annual rental of £417,000. Switches exports 75 per cent. of its products to over sixty countries world-wide including the US, China and Turkey. At the time of acquisition Switches had an order book of £2.3 million.

Elektron has also acquired from the Receiver the entire issued share capital of Holdings' US distribution subsidiary ('Holdings Inc'), and 99 per cent. of Holdings' manufacturing subsidiary in Tunisia ('Holdings Tunisie'). Elektron has an option to purchase 100 per cent. of Holdings' subsidiary in Hong Kong ('Holdings Hong Kong') which owns a Chinese manufacturing facility.

Holdings Inc operates from a leasehold premises of 12,500 square foot in California with a rent of US\$90,000 per annum distributing Switches' products. Holdings Inc employs ten staff and in the year ended 31 December 2002 made audited operating profits of US\$391,000 on sales of US\$4.4 million. In the 11 months to 30 November 2003 management accounts showed US\$497,000 operating profit on sales of US\$4.4 million and adjusted tangible net assets of US\$300,000.

Holdings Tunisie operates from a leasehold premises in Tunisia of 30,000 square feet with a rent of TND 120,000 per annum (£1: TND2.17) per annum and employs 300 assembly staff manufacturing products

for Switches. In the year ended 31 December 2002 Holdings Tunisie's unaudited accounts showed an operating loss of TND31,000. Management accounts for the ten months to 31 October 2003 show an operating loss of TND155,000.

Holdings Hong Kong operates from a 42,000 square foot leasehold premises in Shenzhen, China assembling Switches products mainly for sale in Far Eastern markets and employs 200 staff. For the 21 months to 31 December 2002 Holdings Hong Kong's audited accounts showed an operating loss of HK\$3.1 million (£1: HK\$13.69). Management accounts to 31 October 2003 showed an operating loss of HK\$503,000.

Consideration

The total consideration payable to the Receiver of Holdings and Switches comprises £352,000 in cash and the assumption by Elektron of £1,515,000 of lease finance debt repayable over five years to be secured by a floating charge over the assets purchased from Switches.

Funding

The acquisition of Arcoelectric together with its working capital requirements are being funded from the following sources:

- The acquisition of Aridmark Limited from Panther Securities Plc ('Panther') for a consideration of 9,090,909 new Elektron ordinary shares of 5p each of the Company, pursuant to the five year authority granted by shareholders on 12 July 2000, to be issued at a price of 5.5p each. Aridmark Limited is a company with an issued share capital of £500,000 and cash of £500,000 and has not traded since incorporation. The issue is conditional upon admission of the consideration shares to trading on the Alternative Investment Market of the London Stock Exchange ('AIM').

Following the issue of the shares for the acquisition of Aridmark Limited, Panther Securities will hold 13.96 per cent. of the enlarged issued share capital.

- A loan from Panther of £975,000 to be released at the option of Panther or Elektron. Elektron has exercised its option for release from the loan in return for rental on Switches' UK leasehold premises in Surrey being £417,000 per annum.
- Negotiations are at an advanced stage to raise an additional £600,000 in new equity on substantially the same terms as for Aridmark Limited.

Reasons for acquisition

The Board of Elektron believes that that acquisition of Arcoelectric is a unique opportunity to acquire a substantial business at a low price from a receiver with extensive market, manufacturing and distribution synergies between Arcoelectric and Elektron's existing subsidiary, Bulgin Components.

Honeywell Sensing and Control

Honeywell's Third-Quarter Earnings Per Share 40 Cents; Cash From Operations \$670 Million

Revenues of \$5.8 billion, up 3.6% vs. 2002

Record third-quarter free cash flow of \$539 million

Revenues increase in three of Honeywell's four operating segments

Defense & Space and Turbochargers deliver double-digit revenue growth

MORRIS TOWNSHIP, N.J., October 16, 2003 -- Honeywell (NYSE: HON) today announced third-quarter earnings per share of 40 cents, in line with prior earnings guidance. The results are 10 cents below the same period last year, primarily due to higher pension expense, including the effect of dilution from the prior year's contribution of shares to the company's pension plans. Revenues of \$5.8 billion were up 3.6% from the previous year, driven primarily by favorable foreign currency translation. Year-to-date cash flow from operations reached \$1.7 billion and year-to-date free cash flow (cash flow from operations less capital expenditures) reached \$1.3 billion.

"We delivered another solid quarter, with revenues and earnings on target and record free cash flow, despite difficult market conditions," said Honeywell Chairman and Chief Executive Officer Dave Cote. "We had revenue increases in three of our four operating segments, and our Defense & Space and Turbochargers businesses, which represent about a quarter of our portfolio, posted double-digit revenue growth. These results demonstrate that our management teams and employees around the globe are focused on creating a stronger, more growth-focused Honeywell."

Net income was \$344 million for the quarter. Free cash flow of \$539 million was positively impacted by inventory reductions, lower capital expenditures relative to depreciation expense and favorable cash tax payments. Total debt minus cash and cash equivalents resulted in net debt of \$2.3 billion, or 19% of net capital, versus 22% at the end of the second quarter. Net capital is defined as shareowners' equity plus net debt.

"We continue to demonstrate technological leadership across the portfolio," Mr. Cote said. "Our Aerospace business was selected to develop integrated software for the U.S. Army's Future Combat System program, and received its first Federal Aviation Administration approval for the Primus Epic® integrated cockpit. In Automation and Control Solutions (ACS), Experion PKS™ process control system was recognized by START magazine and Microsoft with a Vision Award for innovation. Our Turbocharger business delivered another quarter of impressive growth in all geographic regions and successfully completed development of its third-generation Variable Nozzle Turbocharger.

"We also continued steady progress on rationalizing the Specialty Materials portfolio by completing the sale of two non-core businesses."

* * * * *

Third-Quarter Segment Highlights

Aerospace

Revenues were up 1.1% compared with the third quarter of 2002, as a result of strong sales in Defense & Space, which offset declines in Commercial Aerospace.

Segment margins were 13.6%, down from 15.3% a year ago, due primarily to higher pension costs and commercial aftermarket sales mix.

The company was selected by Boeing Co. and Science Applications International Corp. to develop integrated software for the U.S. Army's Future Combat System program. Estimated value of the contracts could be more than \$200 million during the program development phase.

Aerospace's Primus Epic® integrated avionics system received its first Federal Aviation Administration approval for Gulfstream's G550 ultra-long-range business jet.

Automation and Control Solutions

Revenues were up 8.6% compared with the third quarter of 2002, due to acquisitions and favorable foreign currency translation.

Segment margins were 10.9%, compared with 13.5% in the third quarter of 2002, driven by pricing, higher pension costs, Building Solutions' sales mix and increased research and development and other expenses.

ACS' Process Solutions business received a 2003 Technology & Business Award from START Magazine and Microsoft for Experion PKS™, the company's process control system.

The Honeywell Round® thermostat celebrated its 50th anniversary during the third quarter. The Round®, part of a Smithsonian Institution collection of pioneering designs, has sold 85 million units since 1953.

Specialty Materials

Revenues were down 2.5%, compared with the third quarter of 2002, due to the disposition of Advanced Circuits and Metglas, partially offset by favorable foreign currency translation.

Segment margins were (1.0%), compared with 1.3% in the prior year, due to higher pension costs, plant disruptions and raw materials, partially offset by divestitures and cost actions.

Specialty Materials completed the sale of its Metglas business to Hitachi Metals, Ltd and its European textile operations to Glaeser Textile.

Transportation Systems

Revenues increased 8.2%, compared with the third quarter of 2002, driven by continued strong growth in turbochargers and favorable foreign currency translation.

Turbocharger sales were up 16% and continued to be strong in all regions as Europe increased 17%, Americas 12% and Asia 7%.

Segment margins were 10.3%, compared with 11.2% a year ago, primarily reflecting higher pension costs and lower volume and unfavorable mix in Friction Materials, partially offset by margin expansion in Turbochargers.

Our Turbocharger business successfully completed development of its third-generation Variable Nozzle Turbocharger to maintain its leadership in the diesel car segment. Also, the Shanghai manufacturing facility produced its one-millionth turbocharger during the quarter.

NKK

Oct 21, 2003 - M2100 Illuminated Toggle, Rocker and Paddle

Leading the industry in design technology and creativity, NKK Switches' expanded illuminated product offering includes the M2100 series of miniature, LED-tipped toggle and paddle actuated switches.

Available in both single pole double throw and double pole double throw circuits, the M2100 series is a highly engineered, power or logic level rated illuminated switch. These versatile switches can be configured in two position (ON ON) or three position (ON OFF ON) models with either synchronous or isolated LED circuits. The standard stainless steel frames promote durability and resist corrosion.

The LEDs are factory-assembled as an integral part of the switch and are available in red, yellow or green, as well as a bicolor version of red and green, which is white while in the OFF position. Engineers can choose between toggle, rocker or paddle style actuators. In the toggle and paddle styles, the LED feature is positioned in the tip, and in the rocker style, the LED is embedded in the cap. Both options offer appealing aesthetics and clearly indicated status.

The toggle-actuated models are constructed with high torque bushings, preventing the actuator from rotating or separating from the metal frame during installation. An anti-jamming feature protects contacts from damage due to excessive downward force on the toggle. The M2100 Series enables designers to choose between toggle switches in solder lug, quick connect, straight PC, with or without support bracket, and right angle PC mount options. In addition, paddle or rocker style devices, while not available in a right angle mount, can be ordered in a flat panel frame or snap-in style mounts. NKK Switches offers optional bezels in various colors to enhance any design.

Power rated models are rated 6A @ 125V AC, 3A @ 250V AC, or 3A @ 30V DC. The silver contacts were created with a particularly strong and durable alloy. Logic level models are rated 0.4VA maximum @ 28V AC/DC maximum. Mechanical life is 50,000 operations minimum and electrical life is 25,000 operations minimum. All configurations feature a dielectric strength of 1,500V between contacts by clinching the stainless steel frame away from the contacts.

The M2100 series has high insulation barriers to protect against crossover in the double pole devices. In all instances, the terminals are molded in and epoxy sealed to lock out flux, dust and other contaminants. The M2100 series is UL Recognized and CSA Certified. Its construction includes a base material with UL Flammability rating of UL94V-0.

Oct 29, 2003 - WR Series Environmentally-Sealed Switches

Continuing to lead the industry in design technology and creativity, NKK Switches announces the new WR series of cost effective, environmentally-sealed rocker switches.

These 15-amp rocker switches are specifically created for harsh, outdoor applications. The sealed construction of the standard size rocker switch conforms to IP67 of IEC529 standards. Additionally, the specially designed switching mechanism for breaking light welds qualifies these switches to IEC 61058 (UL 61058-1).

Single unit construction of the flange and outer housing gives the added protection from environmental elements. The outer housing is constructed of a heat resistant resin that meets UL 94V-O flammability ratings.

The WR series environmentally sealed rockers are rated 15A @ 125/250V AC or 15A @ 30V DC. Operating temperature range is -25 C through 185 C (-130F through 185 F).

Available in both SPST and SPDT in a wide range of circuit options, the standard WR series of rocker switches feature black or ivory caps. Engineers can specify solder lug, screw lug or wire lead terminals. The wire leads are sheathed with heat resistant vinyl in accordance to UL 1015 and CSA TEW 105 standards for Appliance Wiring Material (AWM). Solder lug and screw terminal models meet IP67 of IEC529 Standards at front panel and IP60 at behind panel. Wire lead models conform fully to IP67 of IEC Standards at front and behind panel.

Mechanical life is 30,000 operations minimum for all circuits. Electrical life is rated 15,000 operations minimum for maintained circuits and 10,000 operations minimum for momentary circuits. Dielectric strength is 1,250V AV minimum between contacts and 3,750V AC minimum between contacts and case.

Nov 12, 2003 - SK Series Bushing-Mounted Keylock Switches

Advancing design in switch technology, NKK Switches' extensive offering of keylock switches now includes the SK series of bushing-mounted, low and medium security keylock switches.

The SK series is a cost-effective, high-quality array of devices engineered to deliver the right product for applications requiring security features.

The SK series of bushing mount keylocks features a 12mm diameter bushing for standard panel openings, which also allows for high-density mounting. These miniature keylocks are constructed with a short behind-panel dimension of 27mm(1.063"), making them ideal for applications with limited space. Their crisp and positive detent mechanism ensures accurate switch settings. In addition, the SK series' high dielectric strength of 1,500 volts between contacts and case, delivers reliability with a mechanical life of 30,000 operations minimum and an electrical life of 10,000 operations minimum. SK series devices are available in single-pole, double-throw circuit configurations, and engineers can specify two or three position models, with keys removable in one, two or all three positions. Contacts are non-shorting (break before make). The two position, ON ON models have 90° indexing between settings. The three position, ON OFF ON models have 45° indexing.

Low security versions of the SK series are rated 3A @ 125V AC and 1A @ 250V AC, and are UL recognized and CSA certified. The keys and tumbler barrel are constructed of zinc alloy with a matte chrome finish. Each switch is supplied standard with two keys, and additional keys can be ordered separately.

Medium security SK devices are rated 3A @ 125V AC and are UL recognized. Tumbler barrels are zinc alloy with a shiny chrome finish, and keys are brass with shiny nickel plating. The switches are supplied with one key each for security purposes, and additional keys can be ordered by indicating the key number that is engraved on the face of the switch.

The SK series of low and medium security switches feature a dust resistant interior construction to protect the contacts. The solder lug terminals are epoxy-sealed to prevent the entry of flux and other contaminants, which may compromise the integrity of the contacts. The operating temperature range is -25°C through +70°C (-13°F through +158°F)

Nov 19, 2003 - UB Illuminated and Non Illuminated Pushbuttons

Extending its dedication to provide innovative switch design, NKK Switches' extensive offering of pushbutton switches now includes the low profile, illuminated and non-illuminated UB series. NKK Switches' UB series offers a myriad of choices to meet the needs of even the most demanding of applications.

The UB series provides power or logic level rated devices in an extremely compact body, boasting a behind-panel depth of merely .394" (10mm). Square models have a panel cutout of .628" (16.2mm), and the rectangular devices have a cutout of .638"(16.2mm) by .882"(22.4mm).

Rated 5A @ 125/250V AC or 5A @ 30V DC for power rated models, and 0.4VA maximum @ 28V AC/DC maximum for logic level devices, these switches have a mechanical life of one million operations minimum for momentary models and 200,000 operations minimum for alternate action circuits. They are available in both single pole and double pole, double throw configurations. Alternate action circuits have a latch-down mechanism, making the circuit status instantly visible.

Engineers can specify between square or rectangular, snap-in solder-lug mount and PCB mount models. The rectangular models can be ordered with built-in side barriers, and both shapes feature a built-in bezel. Any combination allows for their use in compact applications.

These devices feature a snap-acting contact mechanism providing sensitive actuation and audible, tactile feedback. In addition, they are quick make, quick break which limits arcing and prolongs electrical life.

Illuminated models are supplied standard with Bright LEDs in red, green or amber. As a further enhancement to this series, design engineers can specify Super Bright LEDs in green, blue or white in all square UB series switches. LEDs are an integral part of the switch, with an isolated circuit for versatility. Cap styles include full-face illumination through a variety of colored lens and diffusers or black spot illuminated. Non-illuminated UB switches can be ordered with brightly colored caps, as well as clear or white.

Engineers can choose from a full array of matching and complimentary indicators. In addition, the UB series has a variety of accessories available, including splash-covers and spring loaded protective covers for snap-in models. The UB family of devices lends itself easily to legending. Legend packets, which are designed to facilitate design engineers' specifications are available on line or can be requested from the factory.

The UB series is UL Recognized and CSA Certified. The flammability rating for the housing/bezel and base is UL94V-0.

Dec 8, 2003 - New Representative Conley and Associates

NKK Switches, the world's premier supplier of electromechanical switches, announced today the appointment of Conley and Associates as its authorized representative for Florida and Puerto Rico.

Conley and Associates has served the Florida/Puerto Rico marketplace since its foundation in 1963, representing some of the top electronic components manufacturers in the industry. The company has a headquarters office in the Orlando area and another office in St. Petersburg.

Conley and Associates is a member of the Electronic Representative Association (ERA), and Johnie Conley Sr., CFO, was an original founding member of the ERA's Florida Sunshine chapter. The company is well-known for its commitment to the industry, specifically in the Florida/Puerto Rico market. With more than 40 years in business, Conley and Associates has established itself as a dependable and stable

business in an ever-changing marketplace.

The Conley and Associates team is made up of topnotch sales personnel. The three outside sales engineers have technical or marketing degrees and aptly cover the entire territory. These sales efforts are supported by three inside salespeople, as well as a strong distribution manager, Lisa Conley. Conley and Associates offers NKK Switches a young, aggressive and well-respected sales force with a great deal of experience and an intimate knowledge of the marketplace, customer base and distributors in the area. Conley and Associates is dedicated to increasing NKK Switches' profitability on sales, securing design wins and growing the customer base for the switch manufacturing company.

Conley and Associates' recent appointment will enhance NKK Switches' established commitment to its authorized distribution network and its OEM accounts. The philosophies and working ethics of both companies are synergistic.

The addition of Conley and Associates to NKK Switches' lineup of representatives across the United States and Canada also strengthens NKK Switches' network in the North American marketplace. NKK Switches' products are sold through a solid foundation of both direct and comprehensive distribution channels. NKK Switches' distribution lineup includes tier one, national and local/regional distributors. Customer service remains NKK Switches' primary commitment.

Dec 18, 2003 - Extensive Portfolio of Illuminated Toggle Switches

Continuing its dedication to innovative switch design, NKK Switches' product portfolio includes a vast array of illuminated, toggle-actuated devices. NKK Switches' Illuminated Toggles Series offers the broadest selection in the switch market, with a myriad of choices that meets the needs of even the most demanding of applications.

NKK Switches' lighted switches portfolio ranges in size and capacity, from the ultra-miniature G Series to the miniature M2100 Series to the TL Series of standard size devices.

The G Series of ultra-miniature illuminated toggles are process compatible, fully lighted toggles. The extremely light weight of this series makes it an ideal choice for front-panel or handheld devices. The toggle actuator is manufactured in a clear polyamide, enabling the LED color to fully illuminate through the entire actuator with a bright, jeweled appearance. This feature allows for highly visible status indication.

LED color options include red, green, amber and bicolor red/green illumination. The height and width of the switch is .276" and the depth is .177." The illuminated toggle actuator is .150" in length. Applications requiring high-density mounting are further facilitated with the standard .100" X .100" PC terminal spacing. Rated at 0.4VA maximum @ 28V AC/DC, they are available in single pole circuit options of ON ON and ON OFF ON, and in straight PC or right angle PC mount terminations.

The M2100 Series of miniature LED tipped toggles are available in power or logic level rated options. Design engineers can specify SPDT or DPDT maintained circuits with either synchronous or isolated LED circuits. Additional features include a high-torque bushing that prevents the actuator from rotating, and an anti-jamming feature to protect contacts from excessive downward force.

The M2100 devices are available in red, green, yellow or bicolor red/green LEDs. Available terminations include solder lug, QC, straight PC and right angle PC. Constructed with stainless steel frames, these switches are sturdy and corrosion resistant. Single pole, power-rated models with synchronous circuits, are UL Recognized and CSA Certified. In addition, all models feature UL94V-0 rated bases. Power models are rated 6A @ 125V AC or 3A @ 250V AC or 3A @ 30V DC.

The TL Series of standard size, fully illuminated, translucent colored toggles are brilliantly lit. The LED light sources, available in red, green and amber, are enhanced by the polycarbonate toggles with an evenly diffused and eye-catching appearance. In addition, Super Bright LEDs are offered as additional choices in white, green and blue. Engineers can specify between two different actuator lengths of 11.0mm or 17.5mm.

The actuators in the TL Series have anti-static features that withstands 20 kilovolts of electrostatic discharge. The housing and 12mm bushing are constructed of a black, glass fiber reinforced polyamide. A black face nut is provided to complete the aesthetic appearance. The TL Series features an interior o-ring protecting the contacts from oil, dust, water and other contaminants. Panel sealed with the use of an optional, exterior o-ring, the TL Series conforms to IP65 of IEC529 standards. These maintained DPDT throw devices come standard with solder lug terminations. Power rated models are rated 6A @ 125V AC or 3A @ 250V AC.

SAIA-Burgess

Data Less Sample

Richard Maxwell Retires

Richard Maxwell retired from SAIA-Burgess after 33 years of service. Richard joined Burgess in June of 1969 selling out of the Gateshead office in the United Kingdom. In 1980 he was promoted to the position of Canadian General Manager. His responsibilities were expanded to Vice President of North American sales in 1991 and opened the office in Buffalo Grove, IL.

Richard's plans for retirement include a move back to the Toronto area, sailing and fly fishing.

Richard's responsibilities at SAIA-Burgess have been taken over by Mike Sammons, formerly of Littelfuse.

In the first nine months of 2003 the Saia-Burgess Group increased turnover by 1.8 percent to CHF 360.3 million (same period for previous year: CHF 353.8 million); after adjustment for currency exchange rates, turnover rose by 4.4 percent or CHF 15.5 million. The EBITA took a CHF 2.2

million reduction from currency effects and came in at CHF 27.1 million (32.0 million). Saia-Burgess expects that turnover will exceed CHF 480 million (CHF 468.9 million) for the business year 2003.

Organic and acquisition-related sales growth

The satisfactory increase in turnover, after adjustment for currency effects, of 4.4 percent is composed of 2.2 percent organic growth and acquisition-related growth of 2.2 percent. TH-Contact contributed CHF 6.4 million (since 1st January, 2003) and Cetronic (since 1st July, 2003) CHF 1.3 million towards the increase in sales. Saia-Burgess acquired the remaining 80 percent of the shares in Cetronic AG with effect from the 1st July 2003.

The EBITA (Earnings Before Interest, Tax and Amortisation) of CHF 27.1 million, includes the negative effect of currency fluctuations of CHF 2.2 million. In addition, a change in the product mix led to increased material costs which were only able to be partially offset by on-going cost controls. Initial costs of approximately CHF 1.5 million were also incurred in conjunction with production start-up for various projects.

The group posted a net profit of CHF 14.4 million (CHF 17.5 million).

Net debt, which the group succeeded in reducing to CHF 99.8 million as at 30th September 2003 (30th June 2003: CHF 119.4 million) demonstrated a positive trend.

The build-up of the Saia-Burgess wholly owned subsidiary in Guangzhou (China) is progressing according to plan. With effect from the 1st July 2003 Saia-Burgess reduced its 50 percent stake in the Chinese firm of Burgess-Defond Manufacturing Ltd. to 25 percent.

Automotive Division reports further increase

After adjustment for currency effects, the Automotive Division reported a 4.9 percent increase in turnover during the first nine months. The start-up of production for various projects gave rise to initial costs which temporarily reduced the Division's gross profit although this will recover over the coming quarters as full production commences. At the end of September the expanded plant in Hatvan (Hungary) was commissioned into operation to cope with major new orders received, with a doubling of its manufacturing capacity for switches and switch subsystems. On the basis of the current client project planning the overall indications for the Automotive Division for the coming quarters point to a positive

development of business.

The turnover of the Industry Division rose by 4.3 percent compared with the same period in the previous year, after adjustment for currency effects. This figure also includes the turnover of TH-Contact and Cetronic achieved during the course of this year. The Industry Division, with almost 40 percent of its sales being generated in North America, was hit particularly hard by the trend in the exchange rate of the USD. The Industry Division reported a slight increase in gross profits and maintained its gross margin compared with the same period in the previous year. The Division's business development in Europe is showing a satisfactory trend. In North America, increased investment in the industrial area leads us to anticipate a revival in the market over the coming quarters.

Despite difficult conditions the Controls Division posted a 3.6 percent increase in turnover compared with the same period in the previous year, after adjustment for currency effects. Thanks to the updating of its technology and product portfolio, the Controls Division, which focuses on the processing controls and infrastructure automation market areas in Europe, will be in a position to generate a positive development in earnings in the future even if there is a delay in the economic upturn.

Outlook

The Saia-Burgess Group forecasts that turnover will exceed CHF 480 million (2002: CHF 468.9 million) for the year 2003. In view of the continuing absence of an impetus from an improved economic environment and as a result of the continuing negative currency effects, the Saia-Burgess Group anticipates an EBITA margin of around 7.5 percent. For 2004, Saia-Burgess expects the start-up of various new projects to produce a positive development.

Tyco

New Line of Tool Switches Provide Speed Control

HARRISBURG, PA – December 12, 2003 – Tyco Electronics, a business segment of Tyco International Ltd., recently introduced the N series line of professional power tool switches. The N series switch is a family of single-pole, single throw switches suitable for use in professional power tools like drills, drivers, hammer drills, shears and nibblers. The basic features of the switch are available on all styles, but the switching capabilities are broken down as follows:

- N0 Version – On/Off Control
- N1 Version – Two-speed control, bypass contact
- N2 Version – Half wave speed control with bypass contact
- N3 Version – Full-wave speed control without bypass contact
- N41 Version – Line voltage potentiometer
- N42 Version – Low voltage potentiometer

The switches are rated for up to 200,000 operation cycles and have contact current ratings of 10A at 125VAC or 6A at 250 VAC. Line voltage wires can be terminated by screw or push-in methods. Motor and capacitor connections are push-in.

N Series switches can be ordered with a reversing module as well as a lock-on button. Several trigger styles and colors can be selected from. Additionally, the reversing lever is available in several styles and colors.

Data Less Sample

Appendix A

DIP Switches	Contributing Subscriber									
	APEM	Cherry	Grayhill	Honeywell	ITT	Marquardt	NKK	Omron	SAIA-Burgess	Tyco
Rotary	P36, P36S, PT65, P60A, P60AS,	None	94R,94H	None	CD,CRD, RTE	None	ND, ND3, DR	A6A, A6C, A6CV, A6R, A6RV	None	MRD,DRD, DR,RR,RA, RC,DRS
Half-Pitch	DHS	None	97R, 97C	None	TDA	None		A6H	None	GDH, MGDH
Standard	IK, DS, DA, DP, DI, DM, PI, PM, MPG, TDS	None	76HP, 78H, 90HB, 97C, 76SB, 76PSB, 78B, 90B	None	SDA,SD,BD, BPA	None		A6D,A6DR, A6E,A6ER, A6S,A6T	None	7000,7100, 7300,7400, 7410,GD, AD, AR,S,DPU, TRI,

Keylock Switches	Contributing Subscriber									
	APEM	Cherry	Grayhill	Honeywell	ITT	Marquardt	NKK	Omron	SAIA-Burgess	Tyco
Sub miniature		None				None	SK			
Miniature	PLR	None		AML 27		None	SK			
Standard/Industrial	PLK	None	03, 58, 71J, 44L, 71L			None	CKL, CKM	A16, A22	E1, M1, K2, P2, TH4, TH8, TH25	SKT,SKW, SKW12, SKF, 164, 165, RM2, M62

Push Button Switches	Contributing Subscriber									
	APEM	Cherry	Grayhill	Honeywell	ITT	Marquardt	NKK	Omron	SAIA-Burgess	Tyco
Sub-miniature	TP, ZP, 9000		38B, 38H, 38G, 32, 39, 38F, 49		EP, TP, 8500, KM, GP		AB, BB, FB, G3B, GB, GB2, HB, HB2			AP, TP, TSP
Miniature	9000, 10400, 300, 400, MPB, IP, IB, IS, SP, 18000, 8000, 800, PB, 13000, 1300X778		30, 46, 38C, 38D, 38E, 23, 10, 7	MML11, MML21, MML31	E020, 8020, E010, 8700, PN, PHA		EB, KB, KP, M2B, MB2000, MB2400, SB4011, UB, JB2, YB			MP, MSP
Standard/Industrial, Illuminated	1200, 12000M, 12000MR, 4700, 4800, MD, MD2, 1400N, AV	L4		AML11, AML12, AML21, AML22, AML31, AML32, Series 2, Series 4, PB,	8060, F, NE18	5000, 1840, 1680, 1683, 1660, 1670	JP, LB, SB, SCB, WB,	A16, A22, A30, A3C, A3D	3290, 3292, 3200, TH4, TH5, TH25	RT, RM, QT, QM, M60
Standard/Industrial, Non-Illuminated		L4		AML11, AML12, AML21, AML22, AML31, AML32, Series 2, Series 4,	8060, F, NE18	5000, 1840, 1680, 1683, 1660, 1670	DLB, LB	A16, A22	3290, 3292, 3200, TH4, TH5, TH8, TH25	164, 165, QM, SR, RM, RT, M61

Data Less Sample

				PB,						
Rocker Switches	Contributing Subscriber									
	APEM	Cherry	Grayhill	Honeywell	ITT	Marquardt	NKK	Omron	SAIA-Burgess	Tyco
Sub-miniature	TR		47C, 47D		7000, E, ET, T, JA, 9000		A, G, GW			TRD, A, AE
Miniature	S, 7000, ST, UL	SR, LR, RR	47A, 47B	MML 24,	D, DM, DF DA	1800,1830, 1855,1858	CWS, CWT, M, M2100, M2T, MLW, CWSB, CWSC	A8L		PRA
Standard/Industrial, Illuminated	2600,AS, R, RH, FM, MR, B, HB, KG, H	CR, TR, WR, GR		AML 24, AML 26, AML 34, AML 36,	C, CA, CG, CL, CM, CN, CR	1900,1930, 1550	JWL, JWM, P, SW, WR		3670,3672, 3673,3680	PRB, PRD
Standard/Industrial, Non-Illuminated	AS, R, RH, FM, MR, HB, KG, H	CR, TR, WR, GR			C, CA, CG, CL, CM, CN, CR	1900,1930, 1550	LW			PRB, PRD

Data Less Sample

Slide Switches	Contributing Subscriber									
	APEM	Cherry	Grayhill	Honeywell	ITT	Marquardt	NKK	Omron	SAIA-Burgess	Tyco
Sub-miniature	MJS, MSSA, MSSB, MHSS, MS, MMS, TG, NK	None	48B	None	ES, TS, GS		SS, AS	None		S, SE, TSS, MMS, SSJ, STS, SSB, SSA, SL, SLS,
Surface mount	TG, MA, MMPS	None		None	AYZ, PCM		SS	None		ASE/F, MLL, SE
Miniature	MSTS, MHS, SLB, SLC, SLA, SLE, G, 25000N, MPS, MSL, MBT	None	48A	None	OS, 1000, L, LP		MS, CS, FS, MS	None		MSSA, ASE/F, SDS, MSS, MHS, CST
Standard/Industrial,	MSS, M, PM	None		None	S, V	4021		None	3585	

Data Less Sample

Snap Action Switches	Contributing Subscribers							
	APEM	Cherry Electrical Products	Honeywell Sensing & Control	ITT C&K	Marquardt	Omron Electronics	Saia-Burgess	Tyco Alcoswitch
Subminiature	MB	DG, CS, DR, DH, DB, DA3, E61, E62, E63, E64, HM, DE, E72, E73, DC, DK	SM, SX, UM, UX, ZM, ZV, ZW, ZX, SE, XE	LC, MM, ZM, LM	1050, 1055	D2F, D2FWG, D2HW, D2JW, D2SW, SSG, D3M, D3K, D3C, D2MQ, D2S, J, SSN, SSP	X5, F1, F4, F5, F6, XC, V4N, V4NS, X4, V4NC, V4L, V4NCS,	1478600 to 1478602
Miniature	MA	D3, D4, K, E21, E22, E23, E31, E33, E34, E35, E36, E51, E53, DN, DD	V5, V7	TF, TM, LF	1080, 1085, 1005, 1006	D2T, D2VW, VN, VX, D3V, D2MV, D2RV, KN	V4LS, XG, V3S, G3, BVM3, X3	1478603 to 1478620 and 1478667 to 1478672
Panel/Door Mount		E65, E68, F68, E69, F69, E75, E77, F77, E78, F78, E79, F79, F80, F85, FA2, FA3, FB	WW, AC, DM, DP	FL, TL		D2D, D3D	XT, XP, TPS, DS, 1427, 1429, 1430, V3Q, 2V3	
General Purpose		E13, E14, E29, E30, E19, G20, E20, E28, GP	BZ/BA, HT, MT, DT, TB	A, HB		A, Z, X, DZ, TZ	PN4, 4BR, 3BR, KB5, KB5EQ, V9N, V9B	

Data Less Sample

Data Less Sample

Tact Switches	Contributing Subscriber									
	APEM	Cherry	Grayhill	Honeywell	ITT	Marquardt	NKK	Omron	SAIA-Burgess	Tyco
Through hole	MJTP, MHPS, MTP	None	95C	None	KSB,KSF,KSA, KSL,KSA, KSLMKII,KSI, KSJ,PTS453, PTS635,PTS645, PTS645-TR	None	CB,JB,JF	B3F,B3M, B3W, B3WN	None	FSM
Surface mount	MJTP	None	95C	None	KMS,PTS525, KSR,KSS,KSC, KMR,KSC5,KT, KST	None	CB	B3FS,B3S, B3SN, B3D	None	FSM

Data Less Sample

Toggle Switches	Contributing Subscriber									
	APEM	Cherry	Grayhill	Honeywell	ITT	Marquardt	NKK	Omron	SAIA-Burgess	Tyco
Sub-miniature	TL,ZL	None	34C,34D, 34E		ET,T,GT		A,B,G, G3T	None	None	TST, TT, ATE
Miniarue	21000N, S,SF, 5000, S5000,ST	None	34A,34B		7000,M,E		E,M, M2100, M2T,TL	None	None	A,AE,MTA, MTB,MTE, MTF,MTG, MTL, MTM
Standard/ Industrial,	11000, 12000, 12000X778, 4100,4200, 4600,1500, 6000, 3600NF, 3500,600H, 600NH	None		AML 25, AML 33, AML 35,	9000	1810,1820	P,S,WT	None	None	152, 147