

# Renishaw CMM Products Division

## PRODUCT BULLETIN – PBC1112

Product: SPA2	Status: Open
Title: Launch of SPA2-2 – Replacement SPA2	Date: 31 <sup>st</sup> August 2007

Originator:		Distribution:	
Jeff Hall		Internal	✓
		Subsidiaries	✓
Reviewer:		OEMs	✓
Brian Gow		Distributors	✓
		Retrofitters	✓

**Summary:**

As part of Renishaw’s continuous product improvement program, we have reviewed the design of the SPA2 Servo Power Amplifier system and a new Mk.2 version, SPA2-2, is now available. The new SPA2-2 has been redesigned to simplify both the customer configuration process and in-house manufacturing. As part of these changes we have now incorporated motor encoder functionality as standard onto the main PCB. This means that for CMMs fitted with rotary encoders, for motor velocity control, a separate encoder plug in card is no longer required. All the motor type option cards and the additional axis card have also been updated to be compatible with the new enclosure design. The additional axis card is now fitted in the opposite side of the unit over the power supply.

The SPA2-2 is a fully compatible drop-in replacement for the SPA2. The list price is not changed but the part numbers are new. Any orders received using the old part numbers will automatically be changed to the new part numbers. We have devised a part numbering matrix which will allow customers to locally kit the various combinations and so keep inventory costs down.

The basic SPA units are built as either 3-axis or 6-axis units which now include encoder functionality as standard. To these you can add the appropriate motor drive output cards (either DC brushed or REVO) and, if required, an additional axis card. As the system is further developed, linear and brushless motor functionality will be added.



## The new part number structure

The part number is in the form of A-5402-8abc where

"a" = The number of axes in the assembly

"b" = Top board, 6-axis unit only - Output connection type

"c" = Lower board for both 3 and 6 axis units - Output connection type

### SPA2-2 SOP Kit - Part Number Table

<b>A-5402-8</b>	<b>a</b>	<b>b</b>	<b>c</b>
	Number of Axes in Box	Top board - Output Type (6 axis unit only)	Lower board - Output Type (all units)
	-	0 = None	0 = None
	-	1 = Revo	1 = Revo (option only valid for a "Revo only" unit)
	-	2 = DC brushed motors	2 = DC brushed motors
	3 = 3 Axis	-	-
	6 = 6 Axis	-	6 = DC brushed motors + additional axis card
	-	-	-

### Putting together a sales kit using base level kits

Step 1 A-5402-8abc The "a" digit defines the number of axes in the SPA2-2 unit, i.e.

**SPA2-2 3 Axis Kit (a=3)**  
**A-5402-8300**

OR

**SPA2-2 6 Axis Kit (a=6)**  
**A-5402-8600**

Step 2 A-5402-8abc The "b" digit defines the output connectors on the top board, i.e.

**SPA2-2 3-axis DC motor kit (b=2)**  
**A-5402-3580**  
(For a 6-axis SPA)

OR

**SPA2-2 Revo connection kit (b=1)**  
**A-5402-3600**  
(For a 3-axis + Revo SPA)

Step 3 A-5402-8abc The "c" digit defines the output connectors on the lower board, i.e.

**SPA2-2 3-axis DC motor kit (c=2 or 6)** OR  
**A-5402-3580**  
(Required for 3-axis, 6-axis  
and 3-axis + Revo units)

**SPA2-2 Revo connection kit (c=1)**  
**A-5402-3600**  
(Only required for a Revo only unit)

If a 4<sup>th</sup> axis is required (option 6) then the following also needs to be included

**SPA2-2 4<sup>th</sup> axis interface card kit (c=6)**  
**A-5402-8103**

#### Note :-

If a Dual SPA2-2 kit is being kitted (A-5402-8312 or A-5402-8322) then a **Dual E-stop cable A-5208-0011** will be required.

## **Kit contents table**

Note :- From Renishaw stock we can supply both **saleable** and *base level* kits

<b>New SPA2-2 part numbers</b> (Saleable kits in <b>Bold</b> ) (Base level kits in <i>Italic</i> )	<b>Original SPA2 part numbers</b>	<b>Kit Contents</b> <b>To kit locally - order <i>part numbers in italic</i></b>
<b>A-5402-8302</b> <b>SPA2 3-axis DC motor kit</b>	A-5121-0010	<i>A-5402-8300</i> SPA2-2 3 axis kit <i>A-5402-3580</i> SPA2-2 3 axis DC motor connection kit
<b>A-5402-8622</b> <b>SPA2 6-axis DC motor kit</b>	A-5121-0012	<i>A-5402-8600</i> SPA2-2 6 axis kit <i>A-5402-3580</i> SPA2-2 3 axis DC motor connection kit <i>P-CA82-0013</i> 360mm CAT5 cable
<b>A-5402-8612</b> <b>SPA2 Revo DC motor kit</b>	A-5121-0023	<i>A-5402-8600</i> SPA2-2 6 axis kit <i>A-5402-3580</i> SPA2-2 3 axis DC motor connection kit <i>A-5402-3600</i> SPA2-2 Revo connection kit <i>P-CA82-0017</i> 1000mm CAT5 cable x2
<b>A-5402-8306</b> <b>SPA2-2 4-axis DC motor kit</b>	<i>N/A</i>	<i>A-5402-8300</i> SPA2-2 3 axis kit <i>A-5402-3580</i> SPA2-2 3 axis DC motor connection kit <i>A-5402-8103</i> SPA2-2 4 <sup>th</sup> axis interface card kit
<b>A-5402-8322</b> <b>Dual SPA2-2 High power 3-axis DC kit</b>	<i>N/A</i>	<i>A-5402-8300</i> SPA2-2 3 axis kit x2 <i>A-5402-3580</i> SPA2-2 3 axis DC Motor connection kit <i>A-5208-0011</i> Dual e-stop cable
<b>A-5402-8312</b> <b>Dual SPA2-2 High power Revo DC kit</b>	<i>N/A</i>	<i>A-5402-8300</i> SPA2-2 3 axis kit x2 <i>A-5402-3600</i> SPA2-2 Revo connection kit <i>A-5402-3580</i> SPA2-2 3 axis DC Motor connection kit <i>A-5208-0011</i> Dual e-stop cable
<i>A-5402-8103</i> <i>SPA2 4<sup>th</sup> axis interface card kit</i>	A-5121-0015	<i>Base level kit (includes the mating connector and backshell for the motor output connector)</i>
<i>A-5402-3580</i> <i>SPA2 DC motor connection kit</i>	A-5121-0018	<i>Base level kit</i>
<i>A-5402-3600</i> <i>SPA2 Revo interface card kit</i>	A-5121-0017	<i>Base level kit</i>
<i>A-5402-8300</i> <i>SPA2-2 3 Axis Kit</i>	A-5208-0101	<i>Base level kit</i>
<i>A-5402-8600</i> <i>SPA2-2 6 Axis Kit</i>	A-5208-0150	<i>Base level kit</i>
<i>A-5208-0011</i> <i>Dual E-stop cable</i>	No change	<i>Base level kit</i>
<b>A-5121-0028</b> <b>SPA2 DC motor connector kit</b>	No change	Customer option (not included as standard in SPA kits) <i>A set of 3 mating connectors and backshells for the motor output connectors.</i>
<b>A-5121-0027</b> <b>Scale / encoder connector kit</b>	No change	Customer option (not included as standard in SPA kits) <i>A set of 4 mating connectors and backshells for use for the motor encoder connectors, if used. (This same kit is used for the UCC scale inputs)</i>

Note :-

- The SPA2-2 contains the inputs for motor encoders as standard so the SPA2 encoder interface kit A-5121-0014 is no longer required.

If you have any questions on this bulletin please contact your local Renishaw office.