

## Production Capacity Explodes

by Caroline Dishion

The world's largest explosives manufacturing company, located in Montreal Canada, had up to 20 people on an assembly line hand filling a granule explosive into cloth bags. They came to **ActionPac** to engineer the weighing solution necessary to render obsolete the human resources and most importantly the human risk this endeavor was creating for their operation.

**ActionPac** designed and manufactured an **ME109CLX6** to solve the precarious dilemma this munitions business was dealing with. This is a complex system, built with redundant safety features, comprised of six lanes for dumping the granules into two check weighers. These check weighers communicate with the entire system through an RS232 output to a computer screen for a visual read.

"The biggest challenge with engineering this project was due to lack of product for testing. Obviously we couldn't do sample runs with the actual explosive so we used rice grains. The customer suggested this substitute but it didn't simulate the actual product very well. Some major engineering had to be done during installation at the customer's site to




complete this project," said Roberto Santos, **ActionPac's** assembly manager.

Other challenges with this project included the integration of the customer's engineered and self-manufactured packing machinery and the systems diverse array of

features. These features include air driven feeders, buckets and reject mechanisms; conformance to a CLASS II DIV I GRP F & G hazardous materials environment; hermetically sealed load cells; a custom pneumatic drive; pressurized controls, wiring and conduit; socketed circuit boards and components for ease of repair; and air piloted solenoids.

Proving to be very successful for both **ActionPac** and the munitions manufacturer, this linear **ME109CLX6** system has been safely put into use. It features precision weigh and fills of less than 500g of various volatile pellets at the rate of 60 cycles per

minute with 2 required dumps. Operated by one full time machine manager who sits in a "safe" room with a computer screen, he only needs to enter the "hazardous" area intermittently when the system is on pause. 

## Behind the Scenes Carl & Judy

by  
Christina  
Hailey

Carl Hede began working for **ActionPac** in 1983. Initially involved with the industrial scale aspect, Carl gradually began to evolve his knowledge in the net weigher division of the business. Carl assembled all of the circuit boards himself. However, as production grew an additional circuit board assembler was needed.

After interviewing many potential candidates for the position, **ActionPac** realized there were not many individuals who had experience in this field. The best  
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## Behind the Scenes Carl & Judy

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candidate for training was Carl's wife Judy. She began in 1988. After training in soldering and component identification, Judy gradually started assembling circuit boards. Happily working in a small area of their home, this business relationship is economically advantageous to **ActionPac** and our customers.



Judy loves all aspects of what is required to assemble the circuit boards. She explains the circuit boards as being the brain of the control box. The circuit boards are the contents inside the control box. This is the same as a computer that has a hard drive, a large box with circuit boards and internal connectors, making the whole system work together. Without these contents, our machinery would not exist.

First, Judy hand solders all four boards necessary for one unit of each circuit board. There are approximately 1300 to 1400 solder connections per set taking an average of 3 to 4 hours to build. Then Carl cleans all the flux from the boards, populates them with the required integrated connectors, and then performs testing on all circuit boards. Next he mounts them to the required back panel. Finally, the circuit board chassis is sent to **ActionPac's** Oxnard facility where the control units are completed.

Judy stated, "As technology advances, we too are advancing." She also cites the trend towards smaller circuit boards becoming a challenge because the precision to detail becomes more intense. As the circuit boards get smaller, the need for precision is magnified. She is excited to see how **ActionPac's** growth continues to expand and is proud to be apart of it all. The **MICRO109CBA**, used to weigh and fill metallic powders for Australia's mining industry, has been the most exciting task for Judy to date.

Carl and Judy relocated to Georgia in 1992 remaining valued members of **Team ActionPac** where they continue to work out of their home. **ActionPac**, along with Carl and Judy, enjoy working together as a team creating affordable equipment with high standards.



YOUR CONTACTS AT ACTIONPAC	SINCE
<b>CEO/President, John Dishion</b> . . . . . inq@actionpacscales.com (Ext.114)	1977
<b>Electronics Assembly Director, Carl Hede</b> . . . . .	1983
<b>Production Engineer, Rey Ortiz</b> . . . . . reyo@actionpacscales.com (Ext.113)	1985
<b>Corporate Director, Caroline Dishion</b> . . . . . caroline@actionpacscales.com (Ext.210)	1989
<b>AutoCAD Engineer, Paul Friedrich</b> . . . . .	1995
<b>Assistant Manager, Johnathan Cantalupo</b> . . . . . jonc@actionpacscales.com (Ext.115)	1997
<b>Office Manager, Betz Thompson</b> . . . . . betzt@actionpacscales.com (Ext.112)	1997
<b>Regional Sales - Northern &amp; Central Valley California, Dean Helmling</b> . . . . . nocal@actionpacscales.com	1999
<b>Assembly Mgr/Field Technician, Roberto Santos</b> . . . . . roberto@actionpacscales.com (Ext.117) Hablamos Español	2000
<b>Operations Researcher, Amelia Dishion</b> . . . . . amelia@actionpacscales.com	2000
<b>Assembly Technician - Sean Roper</b> . . . . .	2001
<b>Sr. Fabrication Specialist, Brian Godfrey</b> . . . . . brian@actionpacscales.com	2002
<b>Asia Pacific Office, Sydney Australia, Greg Clubb</b> . . . . . actionpac@appliancemaintenance.com.au	2003
<b>Fabrication Specialist II, Daniel Barker</b> . . . . .	2004
<b>Fabrication Specialist I, Alberto Collazo-Alvarez</b> . . . . .	2005
<b>Assembly Technician, Christopher Dawley</b> . . . . .	2006
<b>Production Manager, Robert Guillen</b> . . . . . robert@actionpacscales.com (Ext.121)	2006
<b>Operations Coordinator, Christina Hailey</b> . . . . . christina@actionpacscales.com (Ext.111)	2006
<b>Assembly Technician, Antonio Luna</b> . . . . .	2006



## Projects on the Board

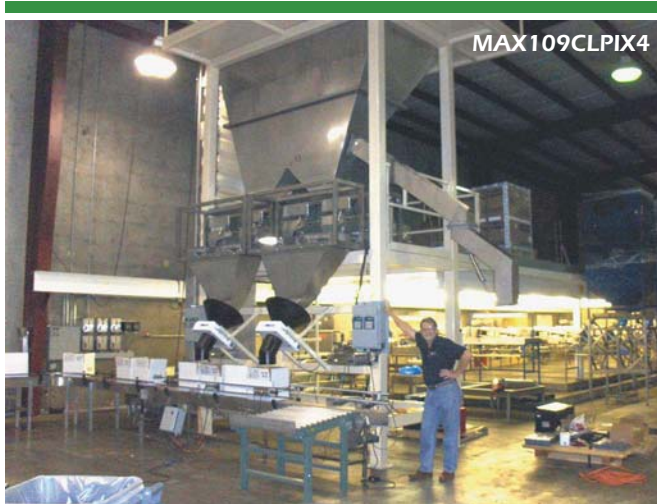
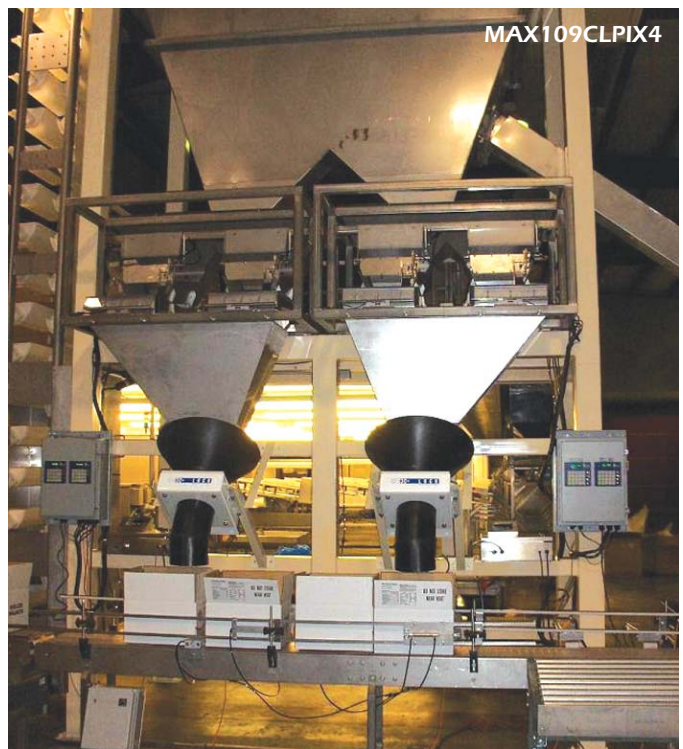
- MAX109CLP** To weigh and fill up to 50lbs of coated seeds into large capacity buckets.
- ME109** To weigh and fill whole bean & ground coffee, into small and large laminate bags.
- MAX109CLPIX2** For running up to 50lbs of shelled & unshelled almonds or walnuts into giant plastic tubs.
- ME1095CSDX4** To weigh and fill up to 1lb tortilla/pita chips into laminate bags.
- ME109** For weighing and filling 5lbs of ground coffee into aluminum tins.
- ME109** For weighing and packaging whole bean/ground coffee into specially designed foil paper bags.
- MINI109** For weighing and filling cardboard containers with special effects powder substance.
- ME109** To weigh and fill ground coffee into small foil pouches.
- MINI109CSLIX3** For gently filling mint products into tin containers.
- MINI109MDLT** Inline discrete package tunnel style system metal detector for product packets.
- ME1095** To run fertilizer pellets/powders into large heavy-duty plastic bags.
- ME1095CX4** To run various bite size hard candies evenly into segmented boxes.

### EQUIPMENT MODEL NUMBER CODES:

<b>C</b>	SOMETHING "EXTRA" OR CUSTOM
<b>S</b>	SPREADER FEEDER
<b>L</b>	LANE GATE
<b>B</b>	BOWL COUNTER - WEIGHT
<b>E</b>	BOWL COUNTER - EYE
<b>V</b>	INTEGRATED CLEAT "EL" HOPPER
<b>EP</b>	ESCAPEMENT COUNTER
<b>D</b>	DIMPLED STAINLESS STEEL
<b>I</b>	INDEXER
<b>EL</b>	ELEVATOR
<b>M</b>	MILLIGRAM RESOLUTION
<b>EZ</b>	EZ FLOW HOPPER TO ELEVATOR

Example:

MAX109CSL/EZ/EL/I = standard max single lane with spreader feeder, lane gate, EZ flow hopper, elevator and indexer



**ACTIONPAC SCALES & AUTOMATION**

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[www.actionpacscales.com](http://www.actionpacscales.com)

1300 Yarnell Place • Oxnard, CA 93033 USA

(805) 487-0403 • FAX: (805) 487-0719

To e-subscribe to MEASURE THIS send an e-mail to:  
christina@actionpacscales.com