



## Application Story: cab A5104 Printer/Applicator

Made in Germany

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A manufacturer of stamped metal electrical components located in the Northeastern U.S. was looking printer/applicators to replace obsolete custom-built machines used to apply 1.63" x 1" UPC-A barcode labels. The labels are applied to the pouches as they exit the flow-wrap packaging machine at a rate of 40-100 parts/minute. Experience with their obsolete machines made the requirements for the new machines obvious and clear.

### New System Requirements:

- Standard product, not a custom design.
- Simple to support, with regard to technical documentation, technical support, repair services, and replacement parts.
- Compact size & simple to operate.
- Portable, since they are often moved between packaging lines
- Utilize commercially available labeling software, supported by the manufacturer, now and in the future.
- Eliminate the computer every labeling station. (Despite the customer not having WiFi or wired-Ethernet networks in the packaging area.

### Existing Obsolete Systems:

- 100% Custom design
- Multiple versions (lack of commonality)
- Not well documented, making service and replacement parts a challenge
- Printers lacked applicator control capabilities, so the vendor built custom controller box to interface to the I/O port on the printer.
- No standalone printing capability, so a computer is needed for each labeler.
- 100% Custom-written labeling program running on MS-DOS.
- The printer model used in these machines is now obsolete and most parts are no longer available. The manufacturer offers a replacement model, but that model has already been in production for more than 10 years, so it's likely nearing end of life soon. It didn't make sense to buy replacement printers for the obsolete custom applicators.

**Standard cab A5104 direct-dispense P&A machine using the cab A4+/300P printer with standalone printing capabilities replaces obsolete custom-built P&A machines.**

Michael Crocker, Sales Manager – Automated Labeling Systems



*Obsolete machine with dedicated computer*



*Applicator required printer modification*



*Obsolete applicator variant ( ext. peel blade)*



*Back of printer showing custom built control box*



## cab Technology's Solution:

Working together with our local cab distributor, we developed a solution that met and exceeded the customer's requirements using standard components from cab's extensive line of modular printers and printer/applicators. cab Technology Inc. doesn't sell direct to end-users, we market our products through a dedicated network of professional reseller/distributor partners.

To meet the specific needs of this application we chose the cab A5104 direct-dispense (merge) application module for our A+ range of industrial thermal label printers. The A5104/A5106 modules (4"/6") work with our A2+/A4+/A6+ printer models. The A5104 applicator module uses a direct method of label application known as "merge" or sometimes referred to as "wipe-on". More specifically, "Synchronous Merge", which means that the labeled product's speed (conveyor belt speed) must match the printer's print/dispense speed. The most common method of doing this is a variable speed drive on a conveyor.

### cab A5104 Printer/Applicator

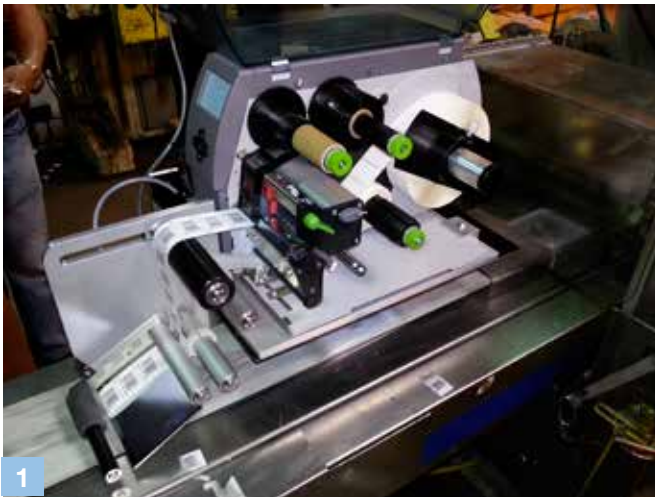
- A4+/300P thermal transfer printer (internal rewind)
- PS5 Dispense I/O module (plugs into front of A+ printer)
- Rotating Unwind Spindle (smooth & consistent tension)
- A5104 direct-dispense applicator module
- Fiber-Optic product detect sensor w/ 15-pin male D-sub connector (reseller supplied), plugs into the PS5 dispense adapter on the A4+
- Saved customer \$ by reusing the existing machine stands. (drilled two holes in the sheet-metal base and the A5104 baseplate bolted right on)
- PC's were eliminated by using cab's standalone printing capabilities.
  - o Label formats were designed offline on a computer using cablabel S3
  - o Label formats stored in the printer (CF card, USB stick, or Printer's Internal Flash Memory)
  - o A USB numeric keyboard plugged into one of the A4+ printer's USB master ports is used to select the label format and enter the number of labels to print.
- In testing this simple machine was able to reach speeds in excess of 175 parts/minute.

Under certain conditions, as was the case with this application, we can employ a slightly different method known as "Asynchronous Merge" which is a way to apply shorter length labels to products moving faster than the print/dispense speed. (See special notes below for more detail). Given the short length of the customer's labels (1"), we were able to use the A5104 as an Asynchronous Merge applicator to handle the faster belt speeds of the flow-wrapping discharge conveyor, which were 3X-5X faster than the printing speed of the cab A4+/300P printer used with the A5104 applicator module.



*cab A5104 easily installed on existing machine stand*

## Various views of the cab A5104 solution



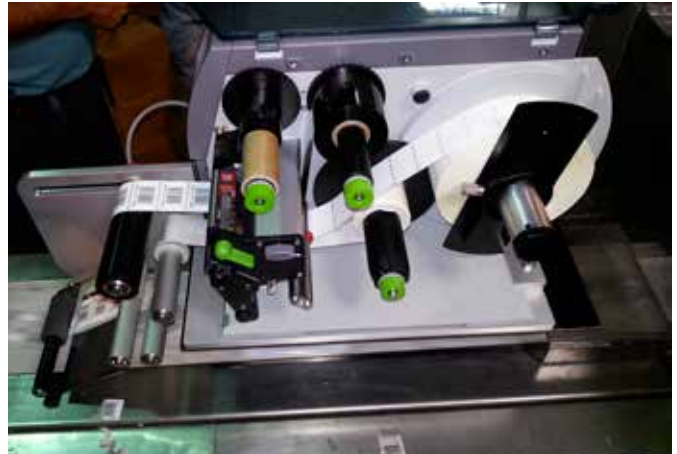
1. Operating with flow-wrap machine (cover open)
2. PS5 module connector & label pitch adjustment
3. Rear view, mounted on existing support stand
4. Front view with USB numeric keyboard
5. Rear view with USB keyboard connection to USB Master
6. Bottom view: 2-bolts connect A5104 plate to stand



## Result

The customer is thrilled with the performance and capabilities of their new cab printer/applicator and they plan to replace the remaining obsolete machines in the coming months. A simple & reliable cost-effective solution that yields big results.

This successful 1<sup>st</sup> application has cab's local distributor and their customer looking at more applications for our innovative products, including an A5104 paired with a small tabletop friction feeder to label flat chipboard boxes, and inserts cards, the cab A1000 P&A for box labeling, and an A4+ printer with our CU-4 cutter module to print & cut insert cards from continuous thermal transfer printable tag stock.



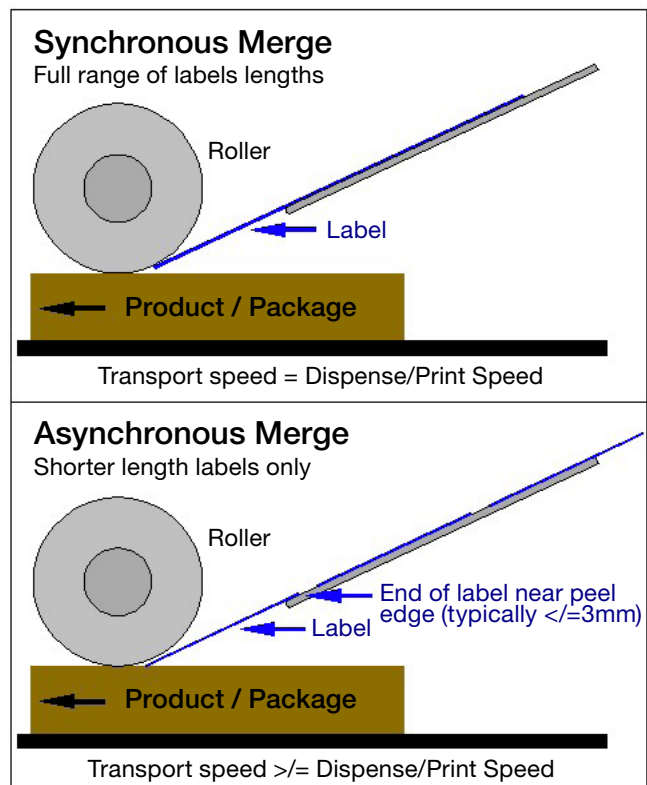
## Special Notes on Merge Label Application Methods – Synchronous versus Asynchronous

### Synchronous Merge

This refers to the product speed matching the label dispensing speed and vice-versa. This is the standard/typical method used by the A5104/A5106 and the Hermes+ 5114 applicator modules. On these direct-dispense applicators the print-speed/dispense-speed are one in the same, so the product speed or conveyor must match the print speed. (i.e. variable speed conveyor drive)

### Asynchronous Merge

This refers to dispensing & placing the label at a speed slower than the product is moving (much faster belt speeds). Care must be taken when considering this method because its uses are limited, and dependent upon label length and product shape. This method is limited to a small range of label lengths approximately ranging from 3/4" to 1 1/2", but each application must be evaluated case by case. The 1<sup>st</sup> part of setting up Asynchronous Merge application involves adjusting the distance from the dispensing edge to the product, and adjusting the wipe-down roller to create a nip (pinch) point on the product being labeled at the leading edge of the dispensing label. The 2<sup>nd</sup> part of the setup is insuring that the 1<sup>st</sup> part was done so that the trailing edge of the label is releasing, or on the edge of releasing from the dispensing edge. Typically less than, or equal to 1/8" (3mm).



- Headquarter in Germany
- cab offices  
520 partners  
in over 80 countries

cab maintains a presence in the world's major economic areas.



Please visit our website for more information on cab Technology's line of printer/applicator systems and broad range of thermal label printing systems.

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