

CASE STUDY

BUSINESS SYSTEMS

BEAR Solutions

A leading Australian developer and manufacturer of card-and-account-based financial systems, BEAR Solutions has been a major provider of cost-effective “user pays” card and pin-access products for businesses, libraries and universities for over 12 years. The company delivers innovative technological solutions to meet the rigorous demands of the education market and as such, sources third-party components from manufacturers that share the same commitment to innovation and quality.

BEAR Solutions Card Cashier terminals have been a university industry mainstay for over a decade. These terminals provide students with card campus services such as photocopying, printing, automated library lending systems and boom gate operation.

This user pays system involves a student approaching an ATM-like terminal to either purchase a new card or add credit to a pre-issued card from the institution. Card Cashiers are made up of several components including a computer, software, LCD screen, coin and note acceptor and a receipt printer.

When BEAR came to designing its third generation series of Card Cashier terminals, the receipt printer was given particular attention.

Inherently EPSON EU-T432

In previous terminals BEAR had been utilising printers from a third-party manufacturer. Aside from those printers’ inability to meet new reliability level requirements, for the next generation Card Cashiers, they fell short in several key areas such as price, functionality and form factor.

“They were *fairly* good printers, but when we designed the third generation Card Cashier we wanted to add a lot more features and also make the manufacturing process a lot easier,” Kier Morrison, Managing Director BEAR Solutions, said.

“So we went to market and found the EPSON EU- (embedded unit) T432. Not only did it offer more features that we could then incorporate into our Card Cashier, but its small form factor meant that we could make the Card Cashier much more *visually* high-tech, which was one of our design goals from the start.

“Price was also a big consideration. The price of the device we had been using was much higher than the EPSON printer but without the real benefits afforded by the EU-T432.”

Proactive technology

Central to the third series’ design was the need to introduce a greater number of proactive features. “From a user’s point of view the series two model was fairly reactive,” Morrison said. “So when the machine ran out of paper or registered



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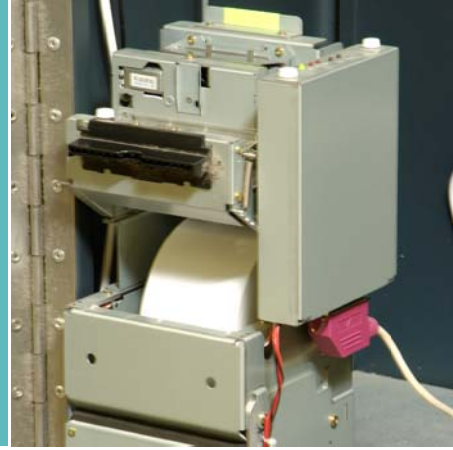
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an error for example, someone had to go to the unit and manually find out what went wrong.

“We wanted the new units to be as intelligent as possible, to the point where they could actually send an SMS or e-mail to a support staff member to alert them *before* the paper has run out.”



Using the EU-T432's sensor technology, printer drivers can alert the Card Cashier's on-board computer when the paper is running low or is at the end of a roll, triggering a predetermined and configured alert response. This same sensor technology is also used within the terminal to adjust precisely the printing and cutting distances, which is of particular importance where additional text and/or graphic elements are included with the receipt.

Simplified maintenance

When designing the third series Card Cashiers, stylish looks and small form factor were paramount. With the small form factor of the EU-T432 (195 x 171 x 300mm) BEAR was able to accommodate a much larger paper roll, which proved invaluable in reducing maintenance visits.

“In the past we've supplied boxes and boxes of paper rolls to our customers, who in turn were constantly running across campus to re-fill the Card Cashiers,” Morrison said. “The size of the EU-T432's 8” paper roll now reduces this by a factor of about eight, which is fantastic.”

Another benefit of the large paper roll quickly became apparent when customers began loading new rolls into the unit. According to Morrison, previous generation Card Cashiers have been somewhat “fiddly” to install new paper rolls. “But with the EU-T432 loading a new roll is dead easy, and this takes the pressure off our customers' staff,” he said.

User-proof reliability

Just as with ATMs, Card Cashier units are subject to fairly harsh treatment, so the need for components that deliver on reliability and robustness is essential for BEAR.

“At the height of exams things tend to be frenetic in a university environment,” Morrison said. “So when you have thousands of people using these terminals, with some students on special grants and requiring printed receipts for tax purposes, you can't afford to have things go wrong.

“After all, if a customer complains about a Card Cashier, the component manufacturer or the reseller that sells it to the university isn't going to hear about it, we are - *our name* is on the box. This fact alone reinforces our need for a terminal printer that is incredibly reliable and can deal with very rough treatment.”

In selecting the EU-T432, BEAR chose a printer designed specifically to withstand that level of rough treatment. With its 150mm per second print speed and print-then-feed system, the EU-T432 prints, feeds and cuts BEAR's Card Cashier receipts in barely a few seconds.

“This is where the EU-T432 is so good,” Morrison stated. “We've had problems in the past, particularly with impact printers, of people ripping the receipt out *as* it's being printed and damaging the print mechanism. With the EU-T432's speed as a thermal printer and its 'print-then-feed' system we never have a problem with the printer jamming.

“By choosing components like the EU-T432 we can guarantee the reliability of our product!”