Quebecor World Applies Software Emulation in Press Control Console Upgrade

Mike Goni, maintenance supervisor at Quebecor World's large printing facility in Riverside, CA, had a problem. After years of continuous use, the displays on several of the plant's press control consoles had become dim and fuzzy, and the press operators were beginning to complain that they had become difficult to read. Mike recognized that the condition of the displays was an indication that the old CRTs in the consoles were wearing out. He knew that even if the CRTs didn't fail completely right away their degraded condition could still have an impact on productivity and safety. Something had to be done.

In his search for a solution, Mike first approached the supplier of the control consoles. The supplier offered to replace all the old consoles with brand new ones, including enhanced controls and modern LCDs. The features of the new consoles were attractive, but the cost of the upgrade would put a big strain on Mike's budget. Was the cost really justified? After all, except for the fact that the displays were becoming hard to read, the old consoles were still performing just fine, and the press operators were at home with them.

When Mike asked the supplier about replacing or refurbishing the CRTs in the old consoles, he was informed that new replacements are no longer available. The supplier explained that the 14" diagonal CRT units were not ordinary monitors but Model 3810 industrial terminals manufactured by Intecolor Corporation of Duluth, GA. These terminals used a peculiar serial communications protocol and had functions that are not present in ordinary monitors. Intecolor had stopped making the terminals about 1995 and subsequently had been acquired by Rockwell Automation, which had discontinued support for obsolete Intecolor products. Moreover, spare parts and third party repair expertise had become scarce. There were a still few refurbished Intecolor units available, but demand had driven the price to more than double what Intecolor had originally charged for these products when new.

Undaunted, Mike approached various industrial display manufacturers, hoping that they could offer him cheaper alternatives. Finally he made contact with a display sales manager who had worked for Intecolor and had been involved in Intecolor's sales of 3810s to OEMs that supplied the printing industry. This sales manager understood immediately what Mike needed, and referred him to Mirador Software, Inc., a supplier of software emulators for various industrial terminals, including the Intecolor 3810.

Software emulators allow legacy control system components such as the 3810 to be directly replaced with inexpensive and readily available PC-style hardware components. They do this by precisely replicating the functions of the old hardware.

Mirador was able to offer Mike a solution for replacing the Intecolor CRTs at a fraction of the prices he had been quoted for new consoles or for refurbished Intecolor units. Mirador's solution was based on its PC8800 Intecolor terminal emulation software

(standard version) and included all the hardware necessary to run the software and fully replicate the functionality of the original CRTs.

Chris Rodie, President of Mirador, said, "When Mike first approached me and explained what he needed, I suggested he install an evaluation version of the emulator on a laptop and test the software on his system before we attempted to work out all the details of a complete solution. I wanted Mike to gain confidence in the emulation approach, and I wanted to confirm that we were not dealing with one of those highly customized variants of the old Intecolor terminal for which there is not yet an emulation solution. Those variants are rare, but they are out there, and each one has to be reverse engineered in order to be properly emulated in software."

Following his successful test of the standard PC8800 software, Mike laid out his desire for a solution that would be as close to "drop-in" and "plug-and-play" as possible. In consultation with Mike, Mirador selected a ruggedly built 12" LCD monitor to handle the displays. This monitor would provide an active display area approximately equivalent to that of the original CRT and would be easy to install in the existing cutout in Mike's control console. After the old CRTs were removed, only a few small holes would have to be drilled to allow mounting the LCDs.

The computer hardware was also selected for ease of installation, and for ruggedness and reliability. The computer Mirador supplied measured approximately 6"x6"x4" and could be easily mounted in most any orientation, either in the ample interior space opened up in the interior of the old console following CRT removal, or in the equipment bay below. It included cooling fans, an IDE flash storage device, a DOS operating system, and utilities to facilitate software maintenance. Mirador preinstalled the PC8800 emulation software and configured the system to launch the emulator automatically following boot. Accordingly, the system would come up just as the old terminal did.

To further simplify Mike's installation task, Mirador included a serial communications cable adapter that would allow Mike to connect the new hardware to the other Goss console components without making any wiring changes. All Mike would have to do would be to disconnect the RS-232 communications cable at the rear of the old Intecolor CRT and reconnect it by way of the adapter to the new hardware.

It took about four weeks for Mirador to deliver. When Mike received the equipment and software, he was able to install it without any major problems within a couple of weeks. The only configuration he had to do was an initial menu-based setup of each emulator's communications parameters to match those of the old terminals. Mike had this to say: "They work great! I have installed all three and have had them up and running since, and it looks better than the original installation. We are planning to order another LCD screen and computer from you to have as a spare. Everybody here now wishes that we would have known about these before, because we were paying about $8000.00 for a rebuilt CRT. That's almost double what we paid you for the entire upgrade package…Thanks again Chris; you have saved me a lot of work!"
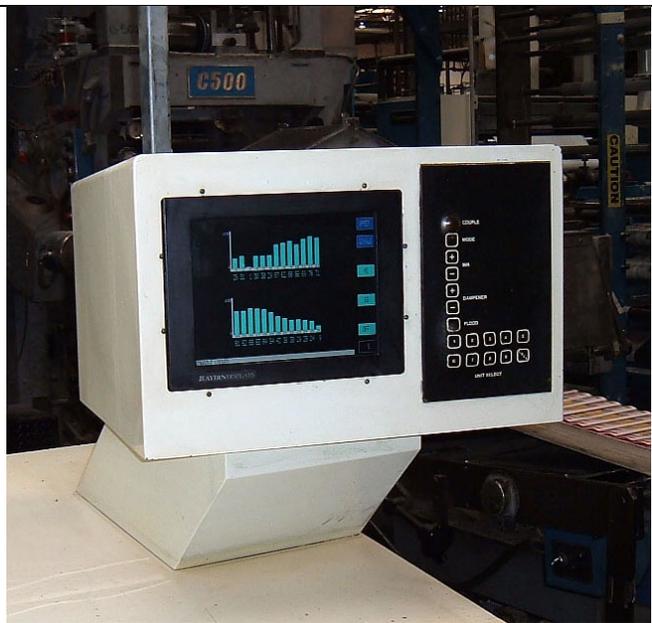
Rear view of one of the press control consoles at Quebecor World's Riverside plant showing the original Intecolor 3810 terminal prior to removal and replacement.	Front view of the press control console showing the original Intecolor 3810 terminal ready for removal from the rear.
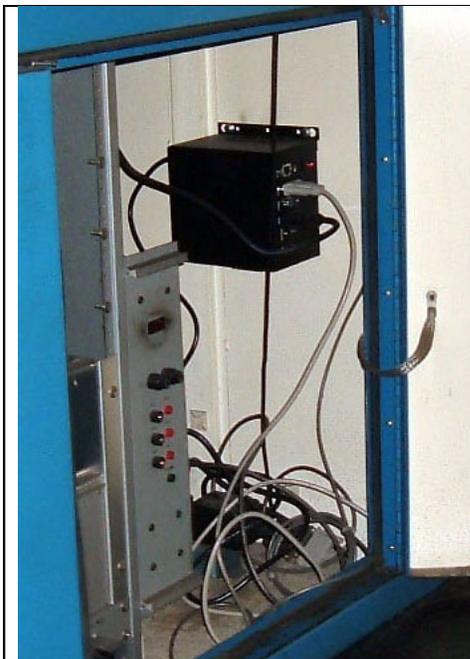
Rear view of a refurbished press control console (lower bay) showing the computer supplied by Mirador Software, Inc. as installed by Mike Goni.	Front view of the refurbished press control console showing the 12" LCD supplied by Mirador Software, Inc. fully installed.

For further information about Mirador Software's replacement solutions for press control console displays, please contact Mirador sales by telephone at 770-850-9100, or by e-

mail at sales@pc8800.com. General information about Mirador and its products is available on the web at http://www.pc8800.com.