

Printer with an Att

By Jan Howells, ARM



Workgroups looking for a high color laser printer that is high on quality and 'greenness" and low on sound will welcome the Konica Minolta.

When Konica Minolta set out to design a compact, environmentally friendly, reasonably priced color laser printer that would offer high quality laser print outs, yet run very quietly, it opted to use Zoran Corporation's fully programmable Quatro 4230 ARM processor-based device. The result is the Konica Minolta's magicolor 1650EN, one of the smallest color printers available in its category, printing 20 pages-per-minute (ppm) in monochrome and 5 ppm in color. The Konica Minolta's magicolor 1650EN incorporates a Quatro 4230 processor from Zoran Corporation, a member of the ARM Connected Community.

The Quatro 4230 is a highly integrated processor designed for color and mono laser printers, Multi Function Peripherals and high speed scanners.

"Konica Minolta opted to use the Zoran Quatro 4230 processor in the magicolor 1650EN because it is a printer optimized processor with high performance, full programmability and high quality image processing," explained a spokesperson for Konica Minolta. "There were several key criteria as to why the Quatro 4230 was chosen, these include PDL processing performance, the ability to design to a low overall COM cost and the future upgradability of the platform for AIO devices," added Neil Epstein, Senior Director of Product Marketing, Zoran's Imaging Division. Built on Zoran's architecture, the Quatro 4230 combines a 400 Mhz ARM11 RISC CPU core and a dual Quaro SIMD DSP cores for high quality image processing and Page Description Language acceleration.

The key benefits of the Quatro 4230 are "performance and flexibility" when it comes to printing, according to Zoran. "The 400 MHz ARM11 CPU and dual 300 MHz DSPs along with a wide range of connectivity options allow the Quatro 4230 to be used in a wide range of printing, scanning and copy devices.

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 magicolor 1650EN

The new Konica Minolta color laser printer uses the Zoran ARM11 processor-based core to deliver huge color in a small form factor.

Another benefit is that the Quatro 4230 provides a natural upgrade path to customers that have developed with other Quatro SOC's," explained Epstein.

"Zoran has standardized on ARM processors for the Quatro family of SoCs. Previous Quatro SOC's have used the ARM7 and ARM9 processor families. The ARM11 processor family provides the additional processing power we were looking for in the Quatro 4230 as well as maintaining compatibility from a processor standpoint with the rest of the Quatro SOC family," added Epstein.

Zoran believes that the ARM11 CPU is key in processing page description languages (PDLs). "PDL printing is a very processor intensive application when compared to GDI or RASTER style printing," explained Neil Epstein. This requires

a processor with the capabilities to process pages at or above the printer engine speed. If the page is not processed in a timely manner then the printer needs to pause and wait while the page is processed.

This is generally not acceptable to printer manufacturers. In this case the ARM11 CPU at 400 MHz provides the needed power to process even the most complicated pages at or above the printer engine speed.

The magicolor 1650EN includes an Emperon print controller for straight forward integration into any network including Windows, Mac or Linux and is compatible with common printer protocols such as PCL and PostScript (PS). The printer utilizes Konica Minolta's Simitri HD toner providing crisp texts and bright and UV light resistant, long-lasting colors. **END**