Product Brief

Zoran Corporation
1390 Kifer Road
Sunnyvale, CA 94086-5305

www.zoran.com

ZORAN

IPS Zx, based on Zx technology developed by Zoran partner Zenographics, is an innovative, compressed, contone, raster printing solution suitable for use on all laser printers and multifunction peripherals. IPS Zx is designed to run at engine speed on both raster-only devices and PDL-enabled devices. IPS Zx enables OEMs to build devices that run at full engine speed without upgrading to more costly hardware or sacrificing full PDL compatibility.

IPS Zx is a complete rendering subsystem, consisting of both an embedded interpreter and a host PC renderer. The Zx interpreter is integrated with Zoran's powerful and flexible foundation technology—IPS—enabling OEMs to develop embedded controllers to consume jobs in the ZxStream™ format. These lightweight, highly compressed jobs are created by integrating the Zx rendering plug-in into an existing driver architecture, or by using the Zx SDK to create a customized driver containing any UI and feature set desired. IPS Zx takes advantage of powerful host CPUs, and allows the Zx system to print at engine speed, with high contone quality and high resolution on devices with less expensive embedded CPUs.

Benefits

• Provides a complete high-quality color and monochrome raster printing solution

• Achieves engine-speed performance with lower CPU, RAM, and ROM requirements for Zx-only products, allowing for lower controller costs

• Achieves engine-speed performance on PDL-enabled products, with no additional hardware costs

• Enables sophisticated object-based continuous-tone printer quality optimizations that print at higher speeds than traditional bi-level raster solutions

• Requires no specialized hardware (such as a raster decoder) on the controller

• Allows image processing to be performed on the host PC or on the embedded controller

• Allows UI and feature set customization for the host driver through the Zx SDK, or allows complete re-use of existing driver UI through the Zx rendering plug-in

Key Features

• Faster performance than one-bit or two-bit raster, but with superior, continuous tone output quality

• Image processing can be directly applied to the compressed ZxStream for further performance improvements

• Support for Windows 9x, Windows 2000, Windows XP, and Macintosh OS 10.2 and higher

• Scalable print architecture allows for higher resolutions and bit depths, with less impact on data stream size and performance versus traditional raster solutions

• Flexible deployment allows for image processing to be handled on the client-side or on the embedded-side, whichever is most efficient

• Can be combined with the other languages in IPS—IPS PS3, IPS PDF5, IPS FIVE and IPS XLC, and IPS XPS—for complete print functionality with minimal ROM and RAM overhead

• OEMs can use Zoran's Quatro 4230 SOC, with IPS Zx already embedded, or can embed IPS Zx in their own SOC

Description

IPS Zx Complete Raster Solution

IPS Zx is a complete raster solution that offers engine-speed performance, high-quality output, highly-scalable architecture and highly-flexible implementation. IPS Zx can be embedded into print controllers with minimal CPU, ROM and RAM availability and still print at engine speed because much of the processing can be performed on the host. Additionally, IPS Zx produces high-quality output because the Zx data stream is contone throughout the entire imaging pipeline. IPS Zx is highly scalable and is capable of supporting engine-speed printing for even the fastest printer engines. Finally, IPS Zx is highly flexible and can be modified to meet the needs of any specific device with little effort. Zx can accept RGB or CMYK, perform color conversion and halftoning, and print at various resolutions and multiple bit depths.

Perhaps one of the most compelling features of IPS Zx is that it can take advantage of sophisticated embedded image processing technology that exists on higher-end devices such as PDL printers, copiers and MFPs. It can also be easily modified to perform quality enhancing image processing on the PC for lower-end devices with limited CPU RAM and embedded image processing logic. Therefore, IPS Zx can easily be embedded into both raster-only devices and PDL-supporting devices. IPS Zx can be easily modified to take advantage of the host system, without the need for costly reconfiguration of embedded controllers or additional investment in device memory or CPU speed

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Product Brief

Description (continued)

IPS Zx Renderer

The IPS Zx client-side high-resolution, continuous-tone renderer can be easily integrated into an existing driver using the Zx rendering plug-in or can be implemented in a new driver using the Zx SDK. This renderer creates contone Zx data streams at a rate of hundreds of pages per minute on standard PCs. These data streams and can be transmitted quickly to networked devices. In addition, as resolution and bit depth increase, the size of the Zx data streams increases at a much lower rate compared to traditional raster solutions, allowing for quick transmission at even the highest resolution and bit depth settings.

IPS Zx Interpreter

The IPS Zx interpreter is integrated into Zoran's powerful and flexible foundation technology—(IPS)—to offer a total solution for high performance printers and multifunction peripherals. The interpreter can be embedded into controllers running other PDLs with no increased footprint. In addition, the interpreter can be embedded into controllers dedicated to raster printing with minimal CPU, ROM, and RAM requirements. IPS Zx requires no specialized decoding hardware on the controller, allowing for efficient controller processing and simple design.

The IPS Zx interpreter offers the fastest raster solution available, printing at rated engine speed for nearly all documents. Color and monochrome laser printers and multifunction peripherals of nearly any speed are not limited by the interpreter's speed while processing Zx data streams.

Zoran Engineering Support Services

Zoran offers Source Code Maintenance and Engineering Support Programs that can shorten development cycles and ensure that the latest Zx language features are available as new operating system versions and controllers are developed. The IPS Zx source code license includes technical support, software integration training and source code maintenance. The Source Code Maintenance Program provides extended source code maintenance and technical consulting, including informative technical bulletins and software patches and updates.

Zoran's Engineering Support Program provides direct software integration assistance and design recommendations to optimize the quality, feature set and performance of the interface between the Zx interpreter and the controller. In addition the program provides assistance and design recommendations to optimize the features and UI of a driver developed using the Zx SDK. OEMs can also work with a Zoran-authorized development partner. These companies have experience in Zoran's IPS integration and can offer fixed-cost, turnkey controller development or consulting for a range of controller and driver configurations and print engines.

Specifications

Print Resolutions
• 600 dpi, 1200 dpi, 2400 dpi

Bit Depths
• 1, 2, 4, 8, 26, and 32-bit per primary pixel depths

Embedded Minimum Memory Requirements
• 64 MB RAM

Host Operating Systems
• Microsoft Windows 9x, 2000, XP
• Macintosh 10.2 and up

Paper Size
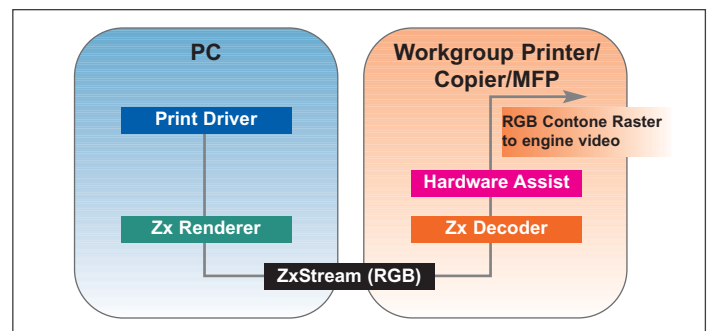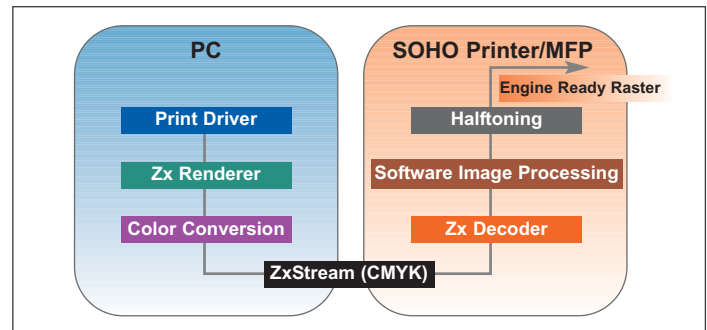• Executive, letter, legal, ledger, A3, A4, B4, B5, envelope, others

Quality Assurance
• QualityLogic ATS

Performance Measurement
• QualityLogic PageSense 4.2

IPS Zx Flexible Configurations

Zoran Corporation   www.zoran.com

imaging.usa@zoran.com   •   imaging.japan@zoran.com   •   imaging.taiwan@zoran.com   •   imaging.korea@zoran.com