Epson Stylus Pro 9500

May 2000

Printing method: On-demand inkjet
Resolutions: Max. 1440 x 720 dpi
Nozzle configuration: Black: 64 nozzles;
Color: 320 nozzles
(64 nozzles x 5 colors)
Ink: Pigment-based ink cartridge, six individual colors high-capacity ink cartridges (220ml/color)
Paper size: A3 (length) to B0+ (up to B1 width for paper of width 0.5 mm or greater)
Electrical requirements: AC 90 to 110 V, 120V, 220-240V, 50 to 60Hz
Power consumption: 100 W or less (when operating) / 30W or less (standby)
Dimensions: (W) 1,688 x (D) 699 x (H) 1,259 mm
Weight: Approx. 96 kg (including feet)

Product Features

The Epson Stylus Pro 9500 large-format inkjet printer (known in Japan as the MC-9000) used newly developed ColorFast ink to produce high-quality output that was lightfast for two hundred years* on sheets of paper as large as B0+. With all six of its inks pigment-based, the Stylus Pro 9500 overcame issues of lightfastness, and represented a revolutionary, versatile printing solution suitable for use in a wide variety of fields.
ColorFast ink, formulated with colorants that exhibited extremely high resistance to light, demonstrated the ability to remain lightfast for approximately 200 years in accelerated testing. This ink, made with uniform micro-particles of pigment reduced in size to 0.1 micron, also expressed vivid and rich colors. Moreover, the pigment particles were encapsulated in a clear resin. As the particles adhered to the surface of a sheet of paper, they would gradually form a resin film over the sheet, resulting in a smooth surface coating. This coating suppressed diffused reflection, thus enabling pigment ink output on the traditionally difficult medium of glossy paper.
A number of other advanced features made the Epson Stylus Pro 9500 attractive to professional users. For example, minimal effort was required to replace cartridges; running costs were kept low partly by using separate, high-volume 220-ml ink cartridges; and, a sixty-four-nozzle print head and high-speed ASIC were used to enable high-speed printing.

Background

At the time the Epson Stylus Pro 9500 was released, professional, high-resolution graphics printer cost many thousands of dollars, so acquiring one was not possible for everyone. Epson thus saw that there was a need for a large-format, high-image-quality printer that could be bought for a relatively affordable price. In 1996, the company undertook development of a large-format printer based on the high-resolution inkjet technology used in consumer-oriented printers. At the same time, the company worked on a paper-feed mechanism that could reliably feed wide paper, as well as on stationary, large-capacity ink tanks. Eventually, Epson engineers were able to solve the durability, reliability and other important issues in the heavy-duty, professional use market. In March 1999, the Epson Stylus Pro 9000 (known as PM-9000C in Japan, which was marketed in December 1998), featuring 1440 x 720 dpi resolution, support for paper sizes up to B0+, and large-format, pigment-based ink printing, made its entry into the market. As further improvements were made to large format printers as time went on, the Epson Stylus Pro series was born, featuring lightfast, gas-fast, and water-fast output. In May 2000, Epson selected Drupa, the world's largest printer-industry trade show held in Germany, as the venue for announcing its new product. Journalists from around the world converged on the scene, and people in the industry sat up and paid attention.

Impact

Following the release of the Epson Stylus Pro series, large-format printers came to be used for applications including graphics, fine art, and posters because they offered durability in addition to richness of expression afforded by superior image quality. This evolution represented a dramatic expansion in the applications for which these printers were used. Additionally, the ColorFast ink with which the Epson Stylus Pro series was equipped had a great impact on the development of the subsequent pigment ink technology.

***Explanation: 200 years of lightfastness**

Lightfastness tests simulate long-term indoor storage of a photo under normal fluorescent lighting and not exposed to direct sunlight.
Factors in addition to light (i.e., ozone, heat, humidity, etc.) that can result in discoloration over an extended period are present. ColorFast ink exhibited particularly excellent lightfastness due to its resistance to discoloration resulting from these various factors.

Preconditions
- Storage conditions: Stored in a picture frame with glass, under indoor fluorescent lighting conditions.
- Media: double-weight matte roll / fine art paper roll
- The number of years stated above is the result of accelerated testing performed by Epson, but does not represent a guarantee.
- The number of years stated above does not apply to discoloration of the paper or lightfastness of the paper itself.

Evaluation methodology / lifetime estimation
- Evaluation conditions
Light source: White, fluorescent lighting (70,000 lux); Temperature: 24°C; Humidity: 60%
On top of the sample, a layer of air and 2-mm-thick soda-lime glass
- Criteria:
The limit point is integrated illumination whose reflection OD value (1.0) declines by 30 % (OD = 1.0 » 0.7)
- Lifetime estimation: 500 lux x 10 hours is treated as average daily dose under indoor fluorescent lighting.
Lifetime (in years) = cumulative illumination / (5000 lux / hour x 365)