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## Color StyleWriter Pro: Printhead Cleaning Features (2/95)

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### TOPIC -----

The Color StyleWriter appears to go through several automated maintenance cycles while I am using the printer. What is the printer doing?

### DISCUSSION -----

Ink-jet technology has incorporated a significant number of advancements during the past several years, all of which improve the reliability, performance, ease of use, and print quality of printers using this technology. In order to maintain the printing performance at a high level, certain automated and user initiated maintenance procedures are necessary.

The bubble-jet technology used in the Color StyleWriter Pro printer requires regular purging and cleaning of the microscopic ink nozzles to prevent them from clogging and accumulating deposits during use, and after predefined periods of no operation. For the Color StyleWriter Pro there are several protective functions for the print head including the following:

- 1) Capping function - The printer caps the print head nozzles with the purge unit cap after the carriage returns to its home position in front of the right purge unit. This prevents the print head from drying up, ink leaking, and dust sticking to the accumulated ink. In order for the capping feature to function properly the printer must be powered off (the green power LED must be off) before unplugging the power cord. Capping also occurs automatically after 60 seconds of no printing.
- 2) Maintenance Jet function - The maintenance jet function flushes ink from all the print head nozzles to the purge unit to prevent the nozzles from getting clogged and to ensure stable printing.
- 3) Cleaning function - The printer has a cleaning function which wipes dust off the print head nozzle surfaces with a head wiper and fills the nozzles with fresh ink. Within the cleaning function there are three levels of cleaning which can be performed automatically by the printer controller as needed, or manually using the Color StyleWriter Pro printer driver. The cleaning modes are as follows:

- Single head cleaning (black only):

This cleaning function requires approximately one minute and consumes a total of 0.29 grams of ink (0.28 grams black). The process includes the cleaning of the black ink nozzles twice, wipes the print nozzles, performs the maintenance jet function, refreshes the ink supply, and then caps the nozzles. An ink nozzle check is also performed to make sure that a supply of ink is present in the nozzles.

- Four-head cleaning:

This cleaning function requires approximately two minutes and consumes approximately 0.14 grams of ink per cartridge. The process includes the cleaning of all four ink nozzles, a main cleaner cleaning, wiping the print nozzles, maintenance jet function, and then capping the nozzles. An ink nozzle check is also performed to make sure that a supply of ink is present in the nozzles.

- Super cleaning:

This cleaning function consumes 0.44 grams of ink per cartridge and is performed whenever a new print head is installed or if the super cleaning function is selected from the print driver. Because the super cleaning mode consumes a fairly large quantity of ink it should only be manually selected in the event that several print nozzles remain clogged even after the normal cleaning methods documented in the owner's guide fail to restore normal printing. An ink nozzle check is also performed to make sure that a supply of ink is present in the nozzles.

The above cleaning features all consume a small quantity of ink under normal operating conditions, however the resulting improvement in print quality and reliability are benefits which cannot be overlooked.

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