1 Troubleshooting

Guide to troubleshooting the printer

This chapter will guide you through the relevant steps to take when troubleshooting the printer.

Troubleshooting system error codes

Chapter 2, System Error Codes contains a list of system error codes and their respective descriptions and recommended corrective actions. Only try one recommended action at a time and check if the error code has disappeared.

If you have an error code which is not documented in this Service Manual or you have an error which you cannot resolve, then report the error to the HP Response Center or the nearest HP Support Office. When reporting the error, have the following information ready:

- Model and Serial Number of the printer.
- Which firmware revision the printer is using (See Note below). Check firmware in Utilities / Statistics / Code rev.
- The complete error number.

NOTE: When reporting the System Error Code, make sure that you supply the full Error Code and the firmware version. Without this information, HP Support Personnel cannot help you.

- The Service Configuration Print.
- The Current configuration sheet.
- Which software application the customer is using (name, version, etc.).

Performing a service test on a failed assembly

If possible, always perform a Service Test on the component/assembly that you are about to replace, just to make sure that is the component/assembly that has failed.

NOTE: If the test on that component/assembly passes, you should NOT replace it.

For information on the Service Tests and how to use them see Chapter 4, Service Tests and Utilities.

Performing the necessary service calibrations

Is the printer calibrated correctly after replacing a component? For information on the Service Calibrations and how to use them see Chapter 5, Service Calibrations.

NOTE: Remember that certain Calibrations are required even if an Assembly has been disassembled to gain access to another Assembly or Component.

Solving print quality problems

Whenever a Print Quality problem appears, it is advisable to print the Diagnostic Print to help diagnose the problem. The Diagnostic Print will help you differentiate between possible printhead errors and other problems such as incorrect front-panel selection, driver or RIP configuration or mechanical problems. For information on solving Print Quality problems see Chapter 6, Print Quality.

The printer does not power on

To resolve printer power up problems, do the following:

1. Check that the power cord is connected correctly to the Printer and to the Power Socket.
2. Check that the Power Switch on the BACK of the Printer is in the ON position.
3. Check to see if any of the LEDs on the Power Switch are On. If any of the LEDs are On, then refer to See page 11 for more information.
4. Check that the Front-Panel Cable is correctly connected to the Electronics Module. Also make sure that the Front-Panel cable is not damaged.
5. Replace the Power Supply Unit ⇒ See page 361.

The printer continuously rejects printheads

To resolve printhead rejection problems, do the following:

1. Clean the flex contacts on the Printhead and in the Carriage Assembly using the Carriage Interconnect Wiper (Refer to Chapter 3) and try again.
2. If ALL the Printheads are rejected (the status message on the Front Panel does NOT show "OK" for ALL the Printheads) then perform the Electronic Systems Test ⇒ See page 92.

Cover sensors are not working

To resolve cover sensor problems, do the following:

1. Perform the Sensors Test ⇒ See page 100.
2. Check if the cable for the faulty sensor is not damaged and is connected correctly.
3. Replace the faulty Sensor.

The line sensor has problems detecting media

To resolve line sensor media detection problems, do the following:

1. Check the type of media that is being used since the Line sensor may have problems detecting transparent media or some types of Non-HP media. Try loading white HP media in to the Printer and check if the Line sensor detects it.
2. Excessive ink deposits on the Platen surface can fool the sensor by reflecting the light. Clean the Center Platen.
3. The Line Sensor is not calibrated correctly. Perform the Line Sensor Calibration ⇒ See page 152.

4. The Line Sensor is damaged or faulty. Replace the Line Sensor ⇒ See page 372.

Troubleshooting Media Jams/Printhead Crashes

NOTE: If you are using HP Coated Media when the problem occurred, please also refer to Page 1-6.

The failure modes "media jam" and "head crash" are grouped together because in many cases a media jam causes the media to lift up into the Carriage path and cause a Printhead crash, thus causing many media jam failures to be reported as head crashes.

1. Did the media jam occur when loading media?

NOTE: When clearing a media jam, sometimes media is stuck in the paper path. To clear this, you must lift the Media Lever and insert thicker media into the paper path to push out the media that is still stuck there.

   - If the client has had media jams, it is common for pieces of media to get stuck in the media path. Clear the media path.

2. Is the customer using non-HP media?

   - The use of non-HP media can easily be the cause of media jams and head crashes (especially head crashes because HP media is specially formulated to avoid cockle, one of the primary causes of head crashes). If the media is not HP approved, advise the customer to use HP media and check to see if the problem is now solved.

3. Check that the Vacuum Fan works correctly.

Troubleshooting shutdowns

If a shutdown occurs, you will get the message "Switch Power Off" followed by one of these messages:

- Check Maintenance Cartridge Path.
- Check Paper Path.
- Check Printhead Path.

NOTE: A shutdown in each path will require different steps to resolve the problem as explained below. In each case, make sure that you power OFF the printer before attempting any procedures to resolve the problem.

Printhead Maintenance Cartridge Path

Open the right door of the printer and check for any visible obstacles restricting the movement of the Service Station. Manually move the Service Station, checking for smooth and free movement.

Paper Path

To resolve paper path problems, do the following:

1. Open the Window and check for any visible obstacles restricting the movement of the Drive Roller. Make sure that the mylar is not damaged. If there is a wrinkled mass of media inside

the paper path, lift the Pinch wheels (using the Media Load Handles) and clear the obstruction.

2. If this shutdown happens at the end of a Roll of Media, it could be because the media is stuck firmly to the Roll. Lift the Pinch wheels (using the Media Load Handles) and pull the media clear.
3. Replace media spindle if broken.
4. Replace the Media-Axis Motor ⇒ See page 333.

Printhead path

When a shutdown occurs in the Printhead path, you will get the message "Switch Power Off / Check Printhead Path (*). The (*) will be a number, which will give an indication on where the failure occurred:

PWM shutdown

To resolve a PWM shutdown, do the following:

1. Clean Slider Rods and Apply Oil along the complete axis of the Slider Rods. After applying the Oil, perform the Scan-Axis Test ⇒ See page 83 and check that the values are within the given limits.
2. Replace the Scan-Axis Motor ⇒ See page 330.

Velocity shutdown

To resolve a velocity shutdown, do the following:

1. Open the Window and check for any visible obstacles restricting the movement of the Carriage Assembly. Try and move the Carriage Assembly manually, checking for smooth and free movement.
2. Check that the Encoder Strip is clean. If necessary, clean Encoder Strip using a damp cloth.

Energy shutdown

To resolve an energy shutdown, do the following:

1. Clean Slider Rods and Apply Oil along the complete axis of the Slide Rods. After applying the Oil, perform the Scan-Axis Test ⇒ See page 83 and check that the values are within the given limits.
2. Replace the Scan-Axis Motor ⇒ See page 330.

Vacuum suction much lower at high altitudes

At altitudes above 3,000 meters, the vacuum force holding down the media will be lower, therefore the media will not be held in place properly causing:

- Ink Smearing on the Media.
- Printhead crashes against the Media.
- Roll Media loading problems (low probability).

PRINTER LIMITATION - NO SOLUTION AVAILABLE.

Banding at variable extreme environmental conditions

NOTE: This problem is only applicable if the OMAS is disabled.

Since the Accuracy Calibration has been done at normal environmental conditions, printing in extreme environmental conditions will cause banding because the advance of the Drive Roller does not correspond to the same conditions that the calibration was done in. To solve the problem, try the following:

Perform the Accuracy Calibration in the new environmental conditions (Refer to the User's Guide).

Printhead Crashes/Smears on High Density Prints Using Coated Media

High density prints can cause cockle mainly on HP Coated Media. This causes two main problems:

1. Cockling in the borders - Because the printer places too much ink on the Coated Media, the borders of the print become raised, causing the Printhead to crash against the media. To solve the problem, try the following:
   - Change the paper margins to 15mm, either in the Front Panel or in the Driver. If the customer is printing PostScript images, send them a PPD file containing the extended margins of 15mm.
2. Cockling within the print - If the Printer places too much ink within the print, the media starts to ripple, causing the Printhead to smear against the media. To solve the problem, try the following:
   - Check in the Front Panel if **Ink Limiting** is ON or OFF. If Ink Limiting is OFF, turn it ON.
   - Never use HP Coated Media for High Density prints. As a substitute use HP Heavy Coated Media.

Banding due to ink cartridge replacement while printing

A user has removed the Ink Cartridge while the printer was printing, which has caused the printer to stop. If the user does not replace the Ink Cartridge immediately, when the printer starts to print again, a band will appear in the position where the printing restarted. This is because the wet ink interacts with the dried ink on the media causing the band to appear. To solve the problem, try the following:

- Do NOT remove the Ink Cartridge while the Printer is Printing. Only replace/remove Ink Cartridges in between Prints.
- If the Ink Cartridge was replaced due to the "Empty" status on the Front Panel, then advise the customer to replace the Ink Cartridge when the "Very Low" status is showing on the Front Panel.
- Reprint the file (without remove the Ink Cartridge).

34" Rice Paper not supported

Roll length is 34" (Non-standard) and the pinch wheels can't control edge of media causing ink smears and Printhead crashes in middle of prints with or without area fills.

PRINTER LIMITATION - NO SOLUTION AVAILABLE.

Worm marks on HP Coated media with light area fills

Light bands (S-shaped) in Paper axis direction where light area fills are printed, causing unacceptable Image Quality defect.

- Print the Service Configuration Print and check if the level of Humidity is very low (below 30%). Increasing humidity may help in reducing the severity of the problem.

NOTE: The media is causing the problem and NOT the Printer. Do not attempt to try and replace Printer parts to solve this problem.

Solving Media-Handling Problems

The Front Panel Keeps Indicating that Media Is Misaligned or Incorrectly Positioned.

- The roll may be loaded the wrong way. The paper should load over the roll toward you.
- Check that the paper is correctly loaded onto the spindle.
- The paper may be loaded at an angle. The right-hand edge must be aligned with the blue line on the Print Platen.

NOTE: Ensure that the paper is wrapped tightly on the roll. This is a very important step to remember because if this is not done, the media may be loaded at an angle, causing the media to be rejected.

Difficult to load media “Too much skew”

If you encounter a high failure rate when loading media and the Front Panel reports “Too Much Skew” it is likely that:

- The encoder strip must be cleaned (this can be carried out by the customer using the User Maintenance Kit).
- The Line Sensor must be cleaned.
- The Blue Line calibration must be performed (see “8. Platen Blue Line Calibration” on page 166).

Using the buzzer at power-up for troubleshooting problems

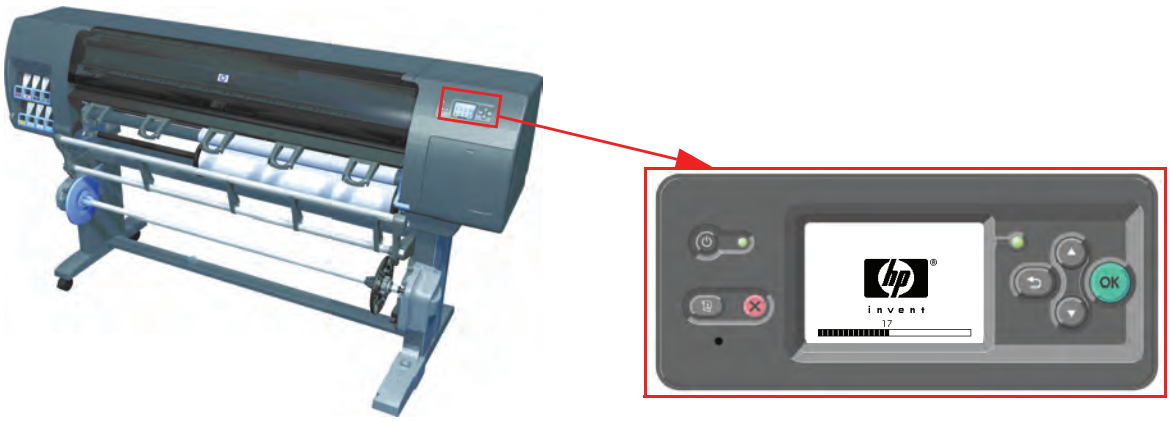
When the Printer is powered up, it doesn’t make a “Beeping Sound” until it is completely powered-up and ready to use. If there is a beep during the power-up sequence, this may signify that there is a problem

within the Electronics Module. The following table will help you to use the "Beeping Sound" to diagnose certain problem:

Number of Beeps	Problem Description	Corrective Action
1	Processor absent	• Replace the Main PCA ⇒ See page 357.
2	Faulty Main PCA or PSU	• Replace the Main PCA ⇒ See page 357. • Replace the PSU ⇒ See page 361.
3	Faulty Memory Module	• Check that the Memory Module is installed correctly. • Try installing the Memory Module in the other Memory slot and check if the problem reappears. • If the problem reappears, replace the Memory Module ⇒ See page 355. • If the problem does NOT reappear, then the original slot could be faulty. In this case, replace the Main PCA ⇒ See page 357.
4	Faulty Video Card (not used)	• Replace the Main PCA ⇒ See page 357.
5	Faulty PCI Card	• Replace the Main PCA ⇒ See page 357
6	BIOS Damaged	• Replace the Main PCA ⇒ See page 357
7	Motherboard damaged	• Replace the Main PCA ⇒ See page 357
8	Hard Disk Drive damaged or missing	• Remove the Main PCA Cover and (with the Printer switch On) check that the HDD is spinning (you should feel it spinning when you touch it or at least hear it spinning). If the HDD is **not** spinning, then it could be damaged. In this case, replace the HDD ⇒ See page 359. • Make sure that ALL cables connected to the HDD are not damaged and are connected correctly. • Replace the HDD ⇒ See page 359 • Replace the Main PCA ⇒ See page 357

Using the Power-up Sequence to Troubleshoot

When the Printer is powered up, it performs the Boot-UP sequence which initializes the major components of the Printer. If for some reason the Boot-Up sequence fails because a components has failed to initialize, the following explanations will help you to locate the failing component.



Step	Initialization Process
	BULNEX KERNEL BOOT
30	rc.sysinit rerun through initlog.
29	• Environmental variables PATH, NETWORKING, HOSTNAME set. • Source /etc/init.d functions.
28	• Fix console loglevel. • Mount /proc. • Dismount the initrd, if necessary. • Configure kernel parameters.
27	Set the system clock.
26	Load keymap.
25	Load system font.
24	Start up swapping.
23	• Set the hostname. • Initialize USB controller and HID devices
22	• Set variables for options to be later used for filesystem check • Turn Off DMA on CD-ROMs • Turn On Hard Disk optimization
21	Perform file system check on root volume.
20	Update quotas if fsck was run on root
19	Setup pnp
18	• Remount the root filesystem read-write. • LVM initialization. • Clear mtab. • Enter root, /proc and (potentially /proc/bus/usb and devfs into mtab. • Remove /lib/modules/preferred and /lib/modules/default. • Tweak isapnp settings if needed. • Load sound modules if the need persistent DMA buffers.
17	• Load modules from /etc/rc.modules. • File system check. • Add raid devices.

Step	Initialization Process
16	• Setup Logical Volume Management. • Check filesystems on all volumes found on /etc/fstab.
15	Mount local filesystems.
14	Check remaining quotas other than root.
13	Enable local filesystem quotas.
12	• Configure machine if necessary (if the respective configure files exist). • Reread in network configuration data.
11	• Clean out /etc, (w/u)tmpx files, /var. • Reset pam_console permissions. • Cleanup utmp/wtmp. • Delete X locks. • Delete VNC and X locks. • Delete Postgres sockets. • Turn On swap in case we swap to files.
10	• Initialize the Serial Ports. • If a SCSI tape has been detected, load the st module unconditionally. • Load usb storage to match most other things. • If ide-scsi is required, load it. • Generate a header that defines the boot kernel.
9	• Dump the syslog ring in /var/log/dmesg. • Keep kernel symbols in /var/log/ksyms. • Create the crash indicator flag to warn on crashes, offer fsck with timeout.
8	Export this variable BOOT_PART and INSTALL_PART.
	PRINT APPLICATION STARTING POINT
7	IO kernel mode initialization (basically).
6	Printer Application Infrastructure startup.
5	Printer IO startup.
4	Front Panel application startup (but wait for engine launching, i.e. Front Panel is not cleared yet).
3	Engine startup, start EE and Mechanical initialization.
2	HPGL/PS parsers startup.
1	All subsystems launched. Wait for Front Panel application to clear the Front Panel and start signaling the initialization sequence.

Corrective Actions for Power-Up Problems

To resolve power-up problems, use the following corrective actions:

1. If the Printer's Power-Up process stops when the front panel is displaying the number **17**, this indicates that there is a problem with the file system on the Printer's Hard Disk Drive, so the Printer is checking the whole file system and making any necessary corrections. This problem can arise when there has been a power cut while the Printer was switched On, or if there is a physical problem with the Hard Disk Drive.

   Checking the whole file system normally takes about half an hour (but could take much longer). There is nothing that can be done to speed up the file checking process. If you turn

Off the Printer during the checking process, the file system check will restart whenever you turn it On again.

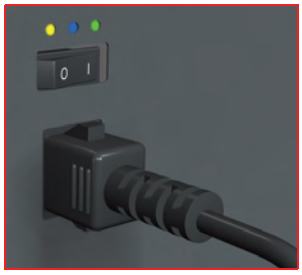
If you experience this problem repeatedly when there has been no power cut, then this could mean that the Hard Disk Drive is faulty. In this case, replace the Hard Disk Drive ⇒ See page 359.

2. If the printer's start-up process stops when the front panel is displaying any number between **1** to **30**, then try the following:

   - Switch the Power OFF from the back of the Printer and disconnect the Power cord. Reconnect the power cord and power On the Printer.
   - If the Printer continues to stop during the power-up process, replace the Hard Disk Drive ⇒ See page 359.

Using the Power Switch LEDs to Troubleshoot

In certain circumstances, the LEDs located on top of the power switch (located at the rear of the Printer) can help to troubleshoot the Printer. The LEDs can either be ON or Off and using different combinations can indicate different problems:



Amber is on the Left
Blue is in the center
Green is on the Right

Make sure you look directly at the LEDs and not at an angle.

1. When only the **Amber LED** is On:

   - The Printer has been switched Off from the Front Panel (after having pressed the On/Off button).
   - The Power Supply Unit only delivers a 5 V “Standby”; power that is needed to restart the Printer after the Front Panel On/Off button is pressed (the Formatter/Main PCA will initiate the Printer to start).

2. When the **Blue LED** is On: Deliver standard “ATX” power for the Electronics Module PCAs (+12V, +5V, -5V, -12V, etc...). All the functions of the Electronics Module are fully operational (EWS, etc...).

3. When the **Green LED** is On: Deliver “analog” 24V and 42V to enable printing.

The Printer monitors and reports different signals: PSU fan issues, 24V and 42V delivery failures (specific System Error reported pointing to PSU failure).

PSU Blue LED Status	PSU Green LED Status	Left LED (on Front Panel) Status	Printer Status
ON	OFF	Red (Front Panel Black)	Standby (with Embedded Web Server up and running)

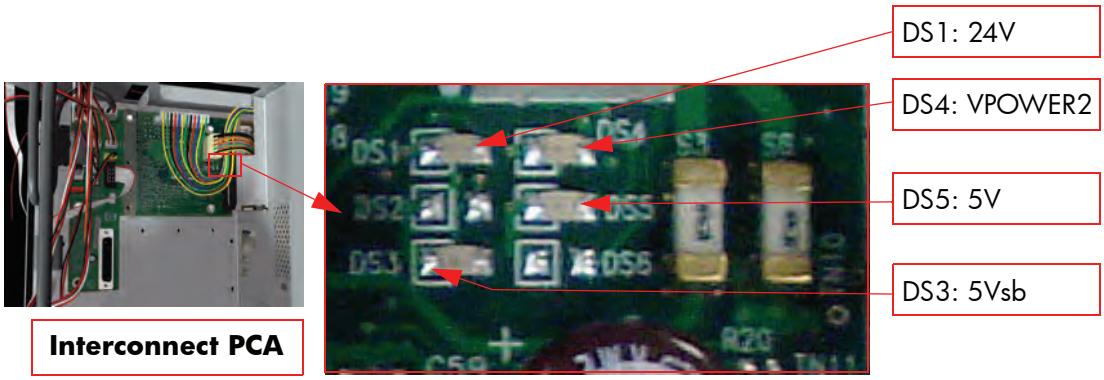
PSU Blue LED Status	PSU Green LED Status	Left LED (on Front Panel) Status	Printer Status
ON	OFF	Green (flashing)	Initializing
ON	ON	Green	Ready (but not printing)
ON	ON	Green	Printing or preparing to print
OFF	ON	Any	Not possible
ON	ON	Red (Front Panel Black)	Not possible

Using the PCA LEDs to Troubleshoot

In certain circumstances, the LEDs located on the Interconnect PCA and PrintMech PCA can help to troubleshoot the Printer. The LEDs can either be ON or Off and using different combinations can indicate different problems.

Interconnect PCA

The following illustration shows the locations of the LEDs on the Interconnect PCA



5V - Comes from the PSU after the fuse on Interconnect PCA. Used to power On Front Panel and some Interconnect Electronics. Should be ON at the same time as Blue Power Switch LED.

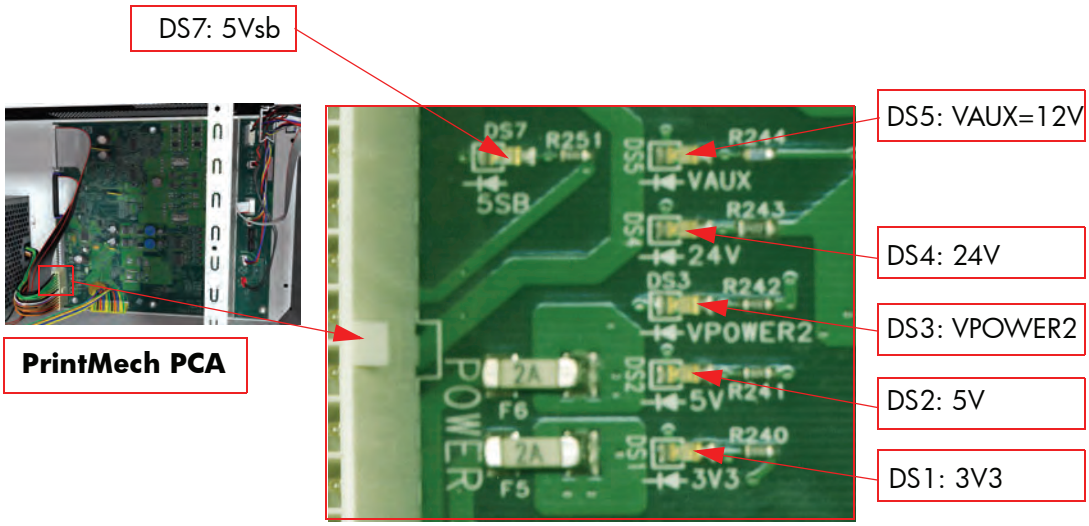
5Vsb - Comes from the PSU after the fuse on Interconnect PCA. Used to power On the Printer from the Front Panel. Should be ON at the same time as Blue or Amber Power Switch LED.

24V - Comes from the PSU after a fuse on the PrintMech PCA.

VPOWER2 - Comes from the PSU (42V) after a fuse on the Interconnect PCA. Used to power the Carriage PCA. Should be ON at the same time as Green Power Switch LED.

PrintMech PCA

The following illustration shows the locations of the LEDs on the PrintMech PCA.



5Vsb - Comes from the PSU after the fuse on PrintMech PCA.

3V3 - Comes from the Power Supply Unit.

5V - Comes from the Power Supply Unit.

VPOWER2 - Comes from the PSU (42V) after a fuse on the PrintMech PCA.

VAUX - Comes from the PSU (12V) after a fuse on the PrintMech.

Identifying faults from LED status

Use the following procedure to identify faults from the status of the LEDs.

1. If the Printer cannot be turned ON:

Signal	LED on Interconnect PCA	LED on PrintMech PCA	Power Switch LED	Corrective Action
5Vsb	OFF	ON	Amber	• Check the connection between the PSU and the Interconnect PCA. • If connection OK, replace the Interconnect PCA ⇒ See page 341.
5Vsb	ON	OFF	Amber	• Check the connection between the PSU and the PrintMech PCA. • Make sure that ALL cables between the PSU and PrintMech are not damaged and are connected correctly.

Signal	LED on Interconnect PCA	LED on PrintMech PCA	Power Switch LED	Corrective Action
5Vsb	OFF	OFF	Amber or no LED	• Check the connection between the PSU and the PrintMech PCA and Interconnect PCA. • If connection OK, check that power reaches the PSU (check the power outlet). • If power reaches PSU, replace the PSU ⇒ See page 361.

2. If the Printer starts (after having pressed the ON button on the Front Panel) but the front Panel remains black:

Signal	LED on Interconnect PCA	LED on PrintMech PCA	Power Switch LED	Corrective Action
5V	OFF	ON	Blue	• Check the connection between the PSU and the Interconnect PCA. • If connection OK, replace the Interconnect PCA ⇒ See page 341.
5V	ON	ON	Blue	• Check the connection between the Front Panel and the Interconnect PCA. • If connection OK, replace the Interconnect PCA ⇒ See page 366 and the Front Panel ⇒ See page 276.

3. The Printer is up and running, or may have a System Error at the end of the power-up sequence. For the Carriage PCA connection, perform the Scan-Axis Test ⇒ See page 83:

Signal	LED on Interconnect PCA	LED on PrintMech PCA	Power Switch LED	Corrective Action
5V	OFF	ON	Blue	• Check the connection between the PSU and the Interconnect PCA. • If connection OK, replace the Interconnect PCA ⇒ See page 341.
24V	ON	ON	Blue and Green	• Check the System Error that is produced and run the corresponding Diagnostic Test (either Scan-Axis or Media-Axis Test.

Signal	LED on Interconnect PCA	LED on PrintMech PCA	Power Switch LED	Corrective Action
24V	OFF	OFF	Blue and Green	• Check the connection between the PSU and the PrintMech PCA and Interconnect PCA. • If connection OK, run the Electronics Module Test to further diagnose the problem.
24V	OFF	ON	Blue and Green	• Check the connection between the PSU and the Interconnect PCA. • If connection OK, run the Electronics Module Test to further diagnose the problem.
24V	ON	OFF	Blue and Green	• Check the connection between the PSU and the PrintMech PCA. • If connection OK, run the Electronics Module Test to further diagnose the problem.

4. On the PrintMech PCA, if the 3V3 LED is ON, 5V LED is ON, ERIDANI LED is ON, VAUX LED is ON and the VAN LED is OFF, then try the following:
   - Run the Electronics Module Test to further diagnose the problem.
   - Replace the PrintMech PCA ⇒ See page 366.
5. If the Power Switch LED is Green and the 3V3 LED is ON, 5V LED is ON, ERIDANI LED is ON, VAUX LED is ON, VAN LED is ON and the VPOWER2 LED is OFF, then try the following:
   - Check the connection between the PSU and the PrintMech PCA.
   - Run the Electronics Module Test to further diagnose the problem.
   - Replace the PrintMech PCA ⇒ See page 366.

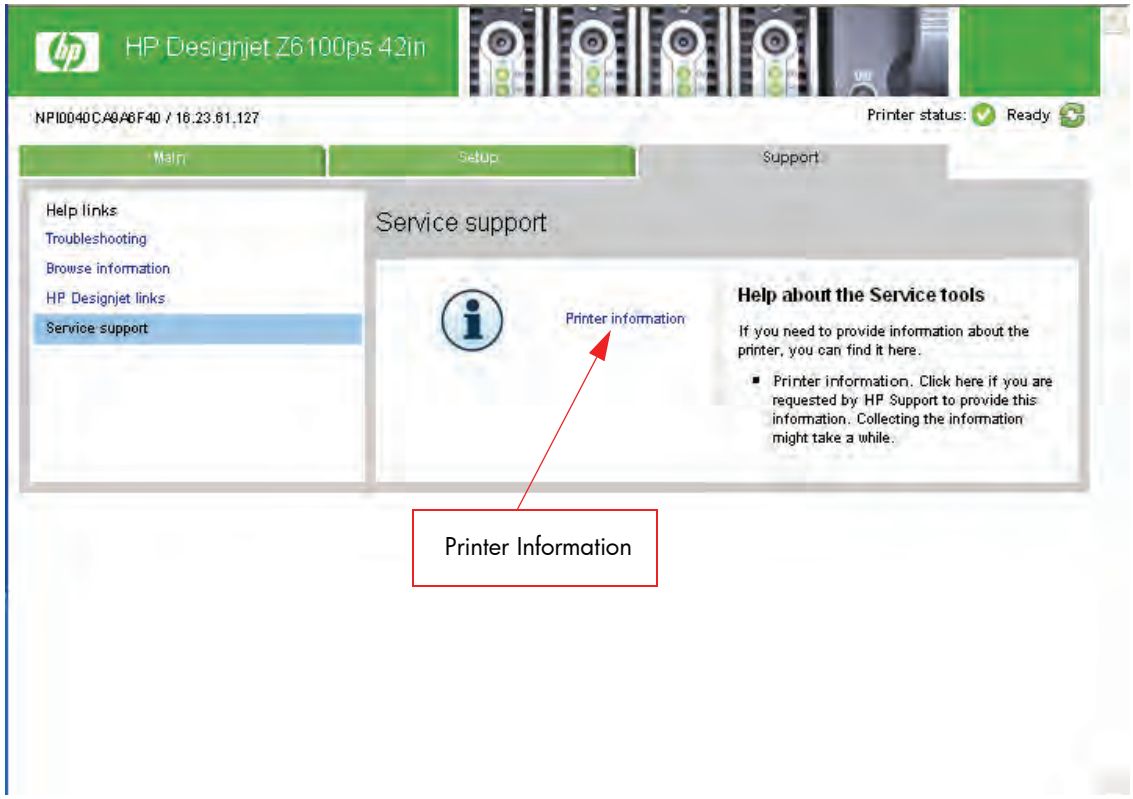
How to Interpret the Service Information Pages

The Service Information Pages contain the following information:

- Current Configuration
- Current Information.
- Usage Information.
- Event Logs.
- Calibration Status.
- Connectivity Configuration
- All Pages.

It is possible to print the Service Information Pages either through the Front Panel or through the Embedded Web Server:

- Front Panel: Setup menu ⇒ Information Menu ⇒ Internal Prints ⇒ Print Service Information.
- Embedded Web Server: Support tab ⇒ Service Support ⇒ Printer Information.



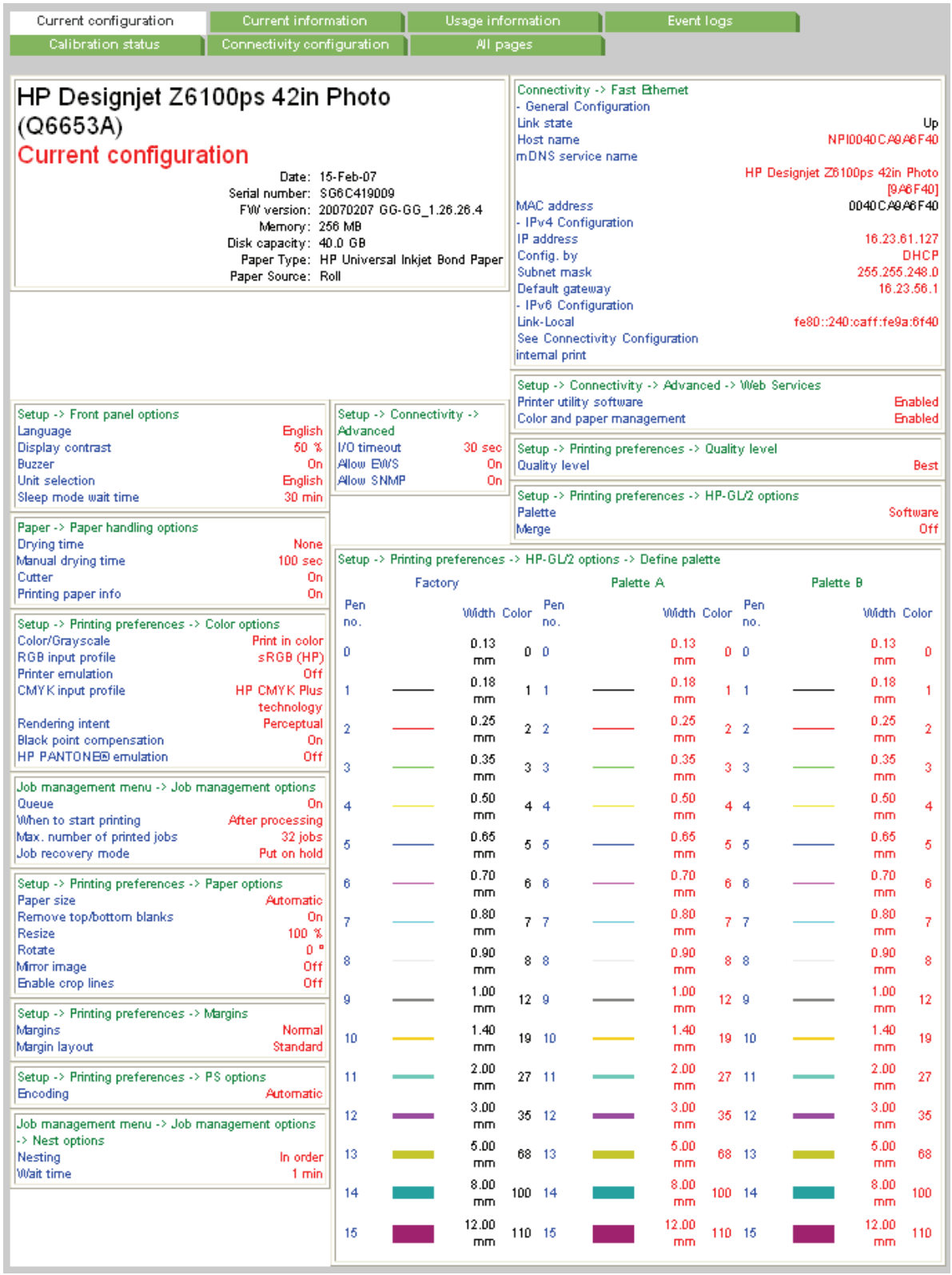
Even if the Printer cannot print, the Information Pages are still accessible through the Embedded Web Server.

Main Characteristics

- Only available in English (except the current information page).
- From the Front Panel, you can choose to print ALL pages or just select the specific pages that are needed. If ALL pages are printed:
  - Nesting is turned ON automatically (and turned OFF once all the pages have been printed).
  - Nesting cannot be mixed with other jobs in the queue.
- Each page can be printed from the Web browser when using the Embedded Web Server.
- Each page can be sent by e-mail from the Web Browser when using the Embedded Web Server (File ⇒ Send ⇒ Page by E-mail).
- You can see the same information through the Front Panel or the Embedded Web Server.

Current Configuration

This page contains full details of the current configuration of the Printer.



Current configuration | Current information | Usage information | Event logs
Calibration status | Connectivity configuration | All pages

HP Designjet Z6100ps 42in Photo (Q6653A)
Current configuration

Date: 15-Feb-07
Serial number: SG6C419009
FW version: 20070207 GG-GG_1.26.26.4
Memory: 256 MB
Disk capacity: 40.0 GB
Paper Type: HP Universal Inkjet Bond Paper
Paper Source: Roll

Connectivity -> Fast Ethernet
- General Configuration
Link state: Up
Host name: NPI0040CA9A6F40
mDNS service name: HP Designjet Z6100ps 42in Photo [9A6F40]
MAC address: 0040CA9A6F40
- IPv4 Configuration
IP address: 16.23.61.127
Config. by: DHCP
Subnet mask: 255.255.248.0
Default gateway: 16.23.56.1
- IPv6 Configuration
Link-Local: fe80::240:caff:fe9a:6f40
See Connectivity Configuration
internal print

Setup -> Connectivity -> Advanced -> Web Services
Printer utility software: Enabled
Color and paper management: Enabled

Setup -> Front panel options
Language: English
Display contrast: 50 %
Buzzer: On
Unit selection: English
Sleep mode wait time: 30 min

Setup -> Connectivity -> Advanced
I/O timeout: 30 sec
Allow EWS: On
Allow SNMP: On

Setup -> Printing preferences -> Quality level
Quality level: Best

Setup -> Printing preferences -> HP-GL/2 options
Palette: Software
Merge: Off

Paper -> Paper handling options
Drying time: None
Manual drying time: 100 sec
Cutter: On
Printing paper info: On

Setup -> Printing preferences -> Color options
Color/Grayscale: Print in color
RGB input profile: sRGB (HP)
Printer emulation: Off
CMYK input profile: HP CMYK Plus technology
Rendering intent: Perceptual
Black point compensation: On
HP PANTONE® emulation: Off

Job management menu -> Job management options
Queue: On
When to start printing: After processing
Max. number of printed jobs: 32 jobs
Job recovery mode: Put on hold

Setup -> Printing preferences -> Paper options
Paper size: Automatic
Remove top/bottom blanks: On
Resize: 100 %
Rotate: 0 °
Mirror image: Off
Enable crop lines: Off

Setup -> Printing preferences -> Margins
Margins: Normal
Margin layout: Standard

Setup -> Printing preferences -> PS options
Encoding: Automatic

Job management menu -> Job management options -> Nest options
Nesting: In order
Wait time: 1 min

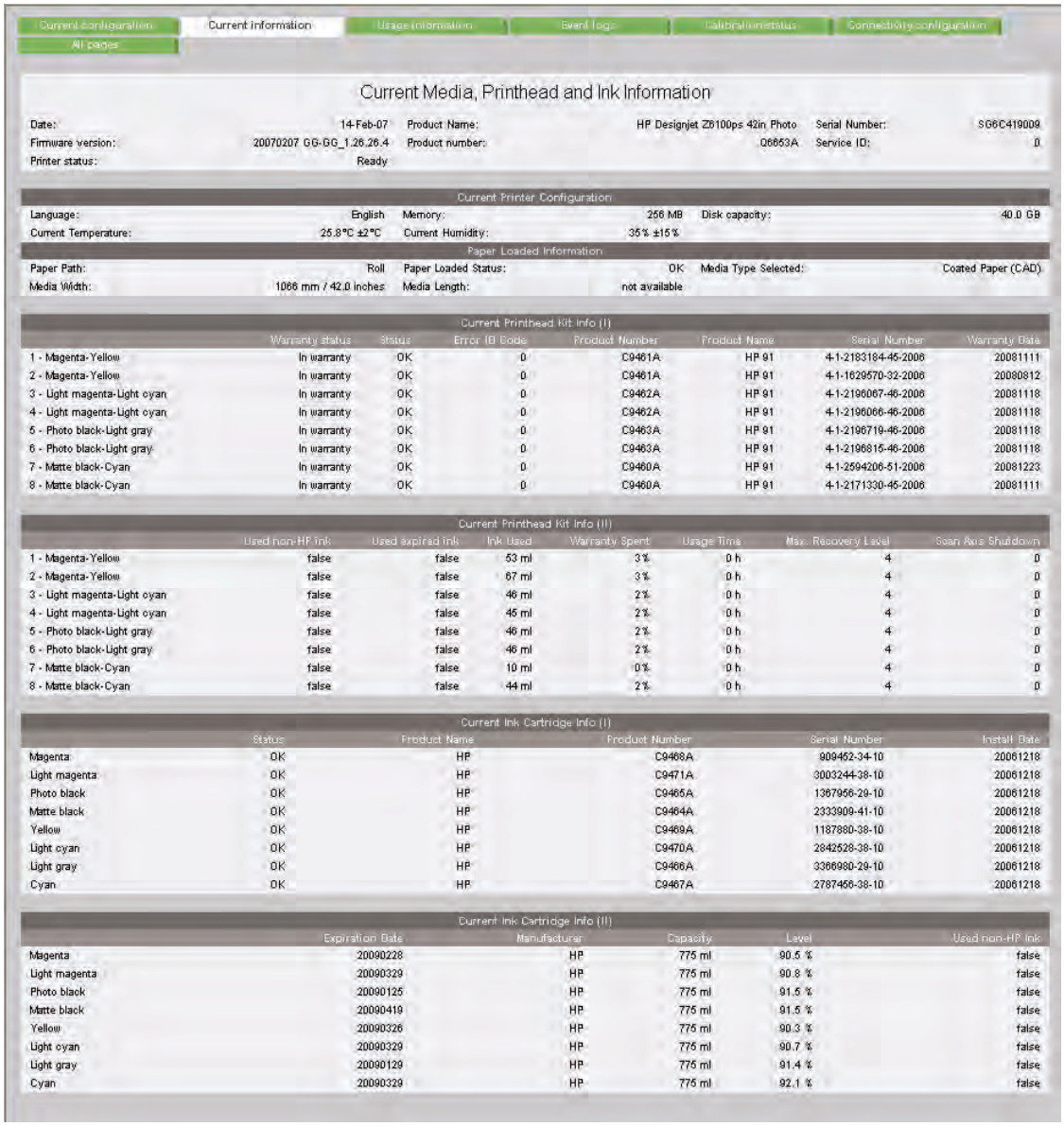
Setup -> Printing preferences -> HP-GL/2 options -> Define palette

Factory				Palette A				Palette B			
Pen no.	Width	Color	Pen no.	Width	Color	Pen no.	Width	Color	Pen no.	Width	Color
0	0.13 mm	0	0	0.13 mm	0	0	0.13 mm	0	0	0.13 mm	0
1	0.18 mm	1	1	0.18 mm	1	1	0.18 mm	1	1	0.18 mm	1
2	0.25 mm	2	2	0.25 mm	2	2	0.25 mm	2	2	0.25 mm	2
3	0.35 mm	3	3	0.35 mm	3	3	0.35 mm	3	3	0.35 mm	3
4	0.50 mm	4	4	0.50 mm	4	4	0.50 mm	4	4	0.50 mm	4
5	0.65 mm	5	5	0.65 mm	5	5	0.65 mm	5	5	0.65 mm	5
6	0.70 mm	6	6	0.70 mm	6	6	0.70 mm	6	6	0.70 mm	6
7	0.80 mm	7	7	0.80 mm	7	7	0.80 mm	7	7	0.80 mm	7
8	0.90 mm	8	8	0.90 mm	8	8	0.90 mm	8	8	0.90 mm	8
9	1.00 mm	12	9	1.00 mm	12	9	1.00 mm	12	9	1.00 mm	12
10	1.40 mm	19	10	1.40 mm	19	10	1.40 mm	19	10	1.40 mm	19
11	2.00 mm	27	11	2.00 mm	27	11	2.00 mm	27	11	2.00 mm	27
12	3.00 mm	35	12	3.00 mm	35	12	3.00 mm	35	12	3.00 mm	35
13	5.00 mm	68	13	5.00 mm	68	13	5.00 mm	68	13	5.00 mm	68
14	8.00 mm	100	14	8.00 mm	100	14	8.00 mm	100	14	8.00 mm	100
15	12.00 mm	110	15	12.00 mm	110	15	12.00 mm	110	15	12.00 mm	110

Current Media, Printhead and Ink Information

This page contains the following information:

- Current Printer Configuration.
- Paper Loaded Information.
- Current Printhead Kit Information.
- Current Ink cartridge Information I and II.



Current Configuration | Current Information | Usage Information | Event Logs | Calibration Status | Connectivity Configuration | All pages

Current Media, Printhead and Ink Information

Date:	14-Feb-07	Product Name:	HP Designjet Z6100ps 42in Photo	Serial Number:	SG6C419009
Firmware version:	20070207 GG-GG_1.26.26.4	Product number:	Q6653A	Service ID:	0
Printer status:	Ready				

Current Printer Configuration

Language:	English	Memory:	256 MB	Disk capacity:	40.0 GB
Current Temperature:	25.8°C ±2°C	Current Humidity:	35% ±15%		

Paper Loaded Information

Paper Path:	Roll	Paper Loaded Status:	OK	Media Type Selected:	Coated Paper (CAD)
Media Width:	1066 mm / 42.0 inches	Media Length:	not available		

Current Printhead Kit Info (I)

	Warranty status	Status	Error ID Code	Product Number	Product Name	Serial Number	Warranty Date
1 - Magenta-Yellow	In warranty	OK	0	C9461A	HP 91	4-1-2183184-46-2006	20081111
2 - Magenta-Yellow	In warranty	OK	0	C9461A	HP 91	4-1-1629570-32-2006	20080812
3 - Light magenta-Light cyan	In warranty	OK	0	C9462A	HP 91	4-1-2196067-46-2006	20081118
4 - Light magenta-Light cyan	In warranty	OK	0	C9462A	HP 91	4-1-2196066-46-2006	20081118
5 - Photo black-Light gray	In warranty	OK	0	C9463A	HP 91	4-1-2196719-46-2006	20081118
6 - Photo black-Light gray	In warranty	OK	0	C9463A	HP 91	4-1-2196815-46-2006	20081118
7 - Matte black-Cyan	In warranty	OK	0	C9460A	HP 91	4-1-2594206-51-2006	20081223
8 - Matte black-Cyan	In warranty	OK	0	C9460A	HP 91	4-1-2171330-45-2006	20081111

Current Printhead Kit Info (II)

	Used non-HP Ink	Used expired Ink	Ink Used	Warranty Spent	Usage Time	Max. Recovery Level	Scan Axis Shutdown
1 - Magenta-Yellow	false	false	53 ml	3%	0 h	4	0
2 - Magenta-Yellow	false	false	67 ml	3%	0 h	4	0
3 - Light magenta-Light cyan	false	false	46 ml	2%	0 h	4	0
4 - Light magenta-Light cyan	false	false	45 ml	2%	0 h	4	0
5 - Photo black-Light gray	false	false	46 ml	2%	0 h	4	0
6 - Photo black-Light gray	false	false	46 ml	2%	0 h	4	0
7 - Matte black-Cyan	false	false	10 ml	0%	0 h	4	0
8 - Matte black-Cyan	false	false	44 ml	2%	0 h	4	0

Current Ink Cartridge Info (I)

	Status	Product Name	Product Number	Serial Number	Install Date
Magenta	OK	HP	C9468A	909452-34-10	20061218
Light magenta	OK	HP	C9471A	3003244-38-10	20061218
Photo black	OK	HP	C9465A	1367956-29-10	20061218
Matte black	OK	HP	C9464A	2333909-41-10	20061218
Yellow	OK	HP	C9469A	1187880-38-10	20061218
Light cyan	OK	HP	C9470A	2842528-38-10	20061218
Light gray	OK	HP	C9466A	3366980-29-10	20061218
Cyan	OK	HP	C9467A	2787456-38-10	20061218

Current Ink Cartridge Info (II)

	Expiration Date	Manufacturer	Capacity	Level	Used non-HP Ink
Magenta	20090228	HP	775 ml	90.5 %	false
Light magenta	20090329	HP	775 ml	90.8 %	false
Photo black	20090125	HP	775 ml	91.5 %	false
Matte black	20090419	HP	775 ml	91.5 %	false
Yellow	20090326	HP	775 ml	90.3 %	false
Light cyan	20090329	HP	775 ml	90.7 %	false
Light gray	20090129	HP	775 ml	91.4 %	false
Cyan	20090329	HP	775 ml	92.1 %	false

The first two lines are available at the beginning of each Service Information Page and contains standard information (like Service ID, Firmware version).

Printer Usage Information

This page contains the following information:

- Printer Usage.
- Usage per Printhead Slot.
- Usage per Cartridge Slot.
- Media Usage per Media Type.
- Component Usage.
- Spittoon Usage.
- Preventive Maintenance Usage.

Current configuration | Current information | Usage information | Event logs | Calibration status | Connectivity configuration | All pages

Printer Usage Information

Date:	15-Feb-07	Product Name:	HP Designjet Z6100ps 42in Photo	Serial Number:	SG6C419009
Firmware version:	20070207 GG-GG_1.26.26.4	Product number:	Q6653A	Service ID:	1744
Printer status:	Ready				

Printer Usage

Total printed media:	4.75 m² / 51.1 ft²	Total number of prints:	7

Usage per Printhead Slot

	Color	Product Number	Printheads Used	Total Insertions
Slot 1	Yellow-Magenta	C9461A	0	8
Slot 2	Yellow-Magenta	C9461A	0	6
Slot 3	Light cyan-Light magenta	C9462A	0	8
Slot 4	Light cyan-Light magenta	C9462A	0	8
Slot 5	Light gray-Photo black	C9463A	0	9
Slot 6	Light gray-Photo black	C9463A	0	10
Slot 7	Cyan-Matte black	C9460A	1	1
Slot 8	Cyan-Matte black	C9460A	0	9

Usage per Cartridge Slot

	Product Number	Usage
1 - Magenta	C9468A	1 Cartridges / 12.41 cc
2 - Light magenta	C9471A	1 Cartridges / 11.19 cc
3 - Photo black	C9465A	1 Cartridges / 10.14 cc
4 - Matte black	C9464A	1 Cartridges / 13.63 cc
5 - Yellow	C9469A	1 Cartridges / 12.15 cc
6 - Light cyan	C9470A	1 Cartridges / 10.38 cc
7 - Light gray	C9466A	1 Cartridges / 9.40 cc
8 - Cyan	C9467A	1 Cartridges / 9.83 cc

Media Usage per Media Type

Coated Paper (CAD)	0.84 m² / 9.0 ft²
HP Universal Inkjet Bond Paper	3.91 m² / 42.1 ft²

Component Usage

Belt usage (# cycles):	537	Motor usage (# cycles):	537	Cutter usage (# cycles):	6
Trailing cable usage (# cycles):	537	Tube ISS usage (# cycles):	537	Tube Primer (cc):	0
Motor usage (Working time in hours):	0	Bushings life (# cycles):	529	Color Sensor Aerosol Exposure (# cycles):	0
Color sensor life (hours):	0	Drop detector working time (hours):	0	Power Off Cycles:	1
Power On Cycles:	3	Service Station Cycles:	125	Pen On/Off Cycles:	20
Plug Time (hours):	10	Correct profiles:	0	Total Profiles:	0
Scan Axis run distance (meters):	529	External Secondary Spitoon Ink Volume (cc):	0	Internal Secondary Spitoon Ink Volume (cc):	0
Line Sensor Life (hours):	0	Working time (hours):	0	Monocassette ink volume (cc):	8832123
Crop Detector Spitoon Ink Volume (cc):	169	Number of OMAS Navigation fails:	8	Number of OMAS Navigation OK:	6
OMAS Paper length (meters):	0				

Spittoon Usage

Left Spittoon (cc):	0.0	Right Spittoon (cc):	0.0	Aerosol FAN:	0	Full bleed foams:	0

Preventative maintenance Usage

Preventive maintenance kit #1	0 %
Preventive maintenance kit #2	0 %

Job Accounting

Date	Job name	Optimized for	Image quality	Max detail
2007-02-14 20:06:52	pla.xls	Images	Fast (draft)	On
2007-02-14 20:00:57	pla.xls	Images	Fast (draft)	On
2007-02-14 19:56:52	pla.xls	Images	Fast (draft)	Off

Media Used Sections

- Total media used in the Printer.

Printer Usage			
Total printed media:	4.75 m² / 51.1 ft²	Total number of prints:	7

- Media used for each media type.

Media Usage per Media Type	
Coated Paper (CAD)	0.84 m² / 9.0 ft²
HP Universal Inkjet Bond Paper	3.91 m² / 42.1 ft²

It is possible that the sum of the media used for each media type is lower that the total amount of media used in the Printer. This is because only the total media used in the Printer is saved in the backup EEROM which is located in the ISS PCA. When the Hard Disk Drive is replaced, the total media used per media type is reset to zero (0), but the total media used is recovered from the backup EEROM.

Printhead Section

The Printheads section displays the Printhead usage per slot.

- **Total Insertions**: This is linked with the crane of the Ink Supply Tubes. When the Ink Supply Tubes are replaced, the total insertions amount will be reset to zero (0).

Usage per Printhead Slot				
	Color	Product Number	Printheads Used	Total Insertions
Slot 1	Yellow-Magenta	C9461A	0	8
Slot 2	Yellow-Magenta	C9461A	0	6
Slot 3	Light cyan-Light magenta	C9462A	0	8
Slot 4	Light cyan-Light magenta	C9462A	0	8
Slot 5	Light gray-Photo black	C9463A	0	9
Slot 6	Light gray-Photo black	C9463A	0	10
Slot 7	Cyan-Matte black	C9460A	1	1
Slot 8	Cyan-Matte black	C9460A	0	9

Cartridge Section

The Ink Cartridges section displays the ink usage per cartridge.

Usage per Cartridge Slot		
	Product Number	Usage
1 - Magenta	C9468A	1 Cartridges / 12.41 cc
2 - Light magenta	C9471A	1 Cartridges / 11.19 cc
3 - Photo black	C9465A	1 Cartridges / 10.14 cc
4 - Matte black	C9464A	1 Cartridges / 13.63 cc
5 - Yellow	C9469A	1 Cartridges / 12.15 cc
6 - Light cyan	C9470A	1 Cartridges / 10.38 cc
7 - Light gray	C9466A	1 Cartridges / 9.40 cc
8 - Cyan	C9467A	1 Cartridges / 9.83 cc

Preventive Maintenance Section

Once the value reaches 100%, the corresponding Preventive Maintenance Kit should be used. For further details, refer to Chapter 9 - Preventive Maintenance.

Preventative maintenance Usage	
Preventive maintenance kit #1	0 %
Preventive maintenance kit #2	0 %

Component Usage

One cycle is counted when the Carriage makes one movement to the left of the Printer and then returns to the right.

Component Usage					
Belt usage (# cycles):	537	Motor usage (# cycles):	537	Cutter usage (# cycles):	6
Trailing cable usage (# cycles):	537	Tube ISS usage (# cycles):	537	Tube Primer (cc):	0
Motor usage (Working time in hours):	0	Bushings life (# cycles):	529	Color Sensor Aerosol Exposure (# cycles):	0
Color sensor life (hours):	0	Drop detector working time (hours):	0	Power Off Cycles:	1
Power On Cycles:	3	Service Station Cycles:	125	Pen On/Off Cycles:	20
Plug Time (hours):	10	Correct profiles:	0	Total Profiles:	0
Scan Axis run distance (meters):	529	External Secondary Spitoon Ink Volume (cc):	0	Internal Secondary Spitoon Ink Volume (cc):	0
Line Sensor Life (hours):	0	Working time (hours):	0	Monocassette ink volume (cc):	8832123
Crop Detector Spitoon Ink Volume (cc):	169	Number of OMAS Navigation fails:	8	Number of OMAS Navigation OK:	6
OMAS Paper length (meters):	0				

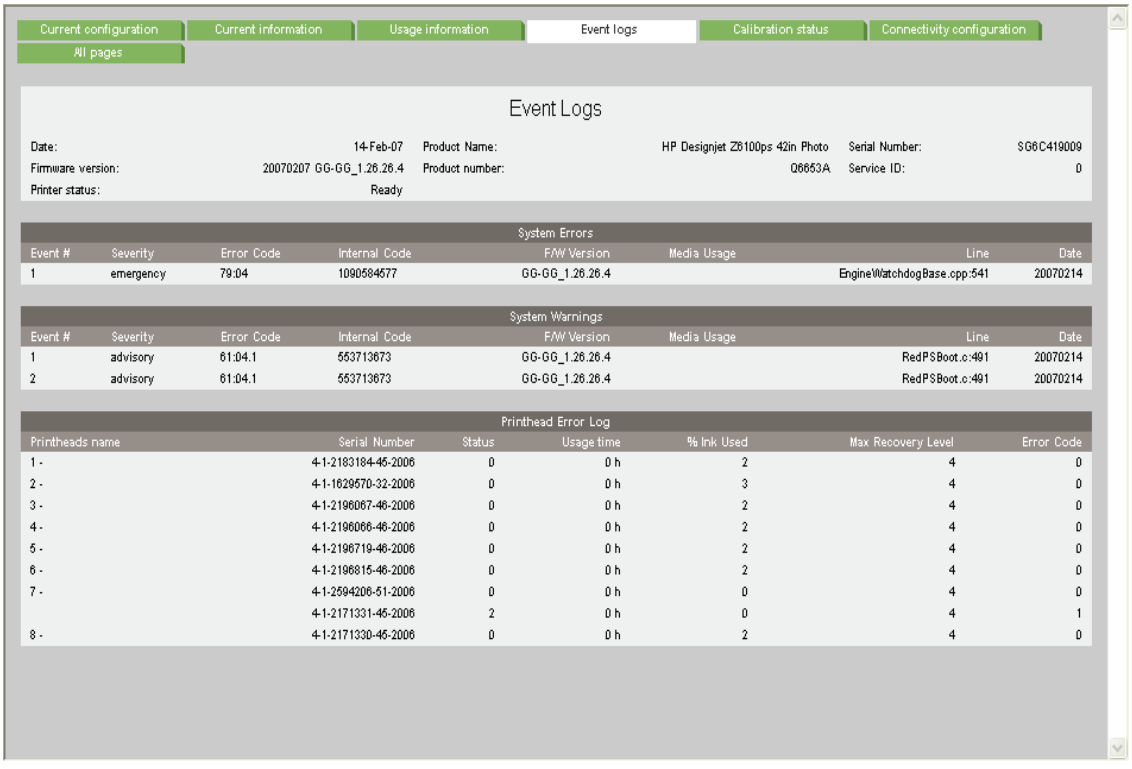
Spittoon Section

This section contains information on the different Spittoons located in the Printer.

Event Logs

This page contains the following information:

- Last 20 System Error Codes (which prevented the Printer from booting).
- Last 20 System Warnings (which did not prevent the Printer from booting, but which required the user to acknowledge the problem).
- Printhead Error log.



System/Warning Error

- The **Line** and **Internal Code** do not provide much information, but are useful in the case of escalating a problem to the division (different internal error codes can point to the same error code (e.g. 01.10:10)).

- **Media Usage** (in square meters) and **Date** (from the Printer's Internal Clock (RTC)) help you to understand if the Printer has been used (media usage) and how much time has passed since the last error.

Printhead Error Log

- Printheads ago: History of the last three Printheads used ('0' represents the current Printhead used).
- **Status**:'0' = Working,'1' = No Pen Detected,'2' = Replace,'4' = Reseat,'8' = Remove.
- **% Ink Used**: Percentage of the Warranty life (1000cc).
- **Error Code**: Specific error code generated by the Printer when the Printhead has been replaced.
- **Max Recovery**:
  - 0: No manual Printhead recovery has been performed on the Printhead.
  - 1 or higher: At least one Printhead recovery has been performed.

Printhead Error Log

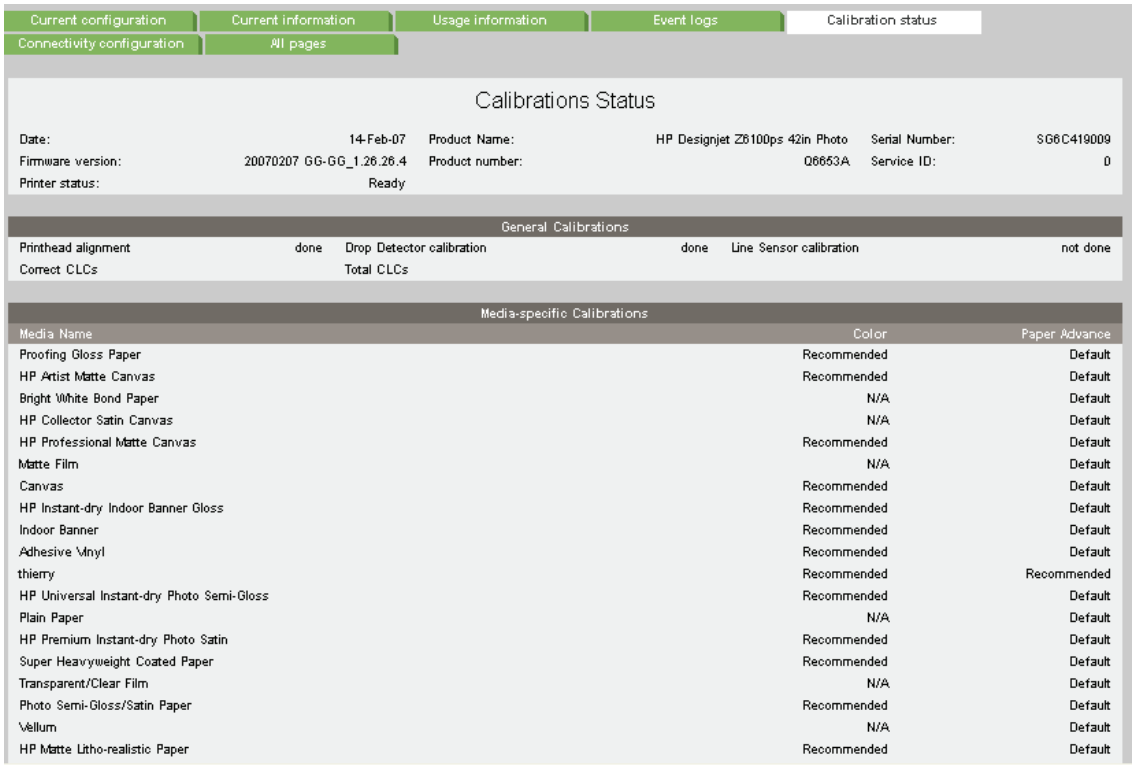
Printheads name	Serial Number	Status	Usage time	% Ink Used	Max Recovery Level	Error Code
1 -	4-1-2183184-45-2006	0	0 h	3	4	0
2 -	4-1-1629570-32-2006	0	0 h	3	4	0
3 -	4-1-2196067-46-2006	0	0 h	2	4	0
4 -	4-1-2196066-46-2006	0	0 h	2	4	0
5 -	4-1-2196719-46-2006	0	0 h	2	4	0
6 -	4-1-2196815-46-2006	0	0 h	2	4	0
7 -	4-1-2594206-51-2006	0	0 h	0	4	0
	4-1-2171331-45-2006	2	0 h	0	4	1
8 -	4-1-2171330-45-2006	0	0 h	2	4	0

Calibrations Status

This page contains the following information:

- General Calibrations (performed by Service Engineers).

- Media Specific Calibrations (performed by the User).



Current configuration | Current information | Usage information | Event logs | Calibration status

Connectivity configuration | All pages

Calibrations Status

Date:	14-Feb-07	Product Name:	HP Designjet Z6100ps 42in Photo	Serial Number:	SG6C419009
Firmware version:	20070207 GG-GG_1.26.26.4	Product number:	Q6653A	Service ID:	0
Printer status:	Ready				

General Calibrations

Printhead alignment	done	Drop Detector calibration	done	Line Sensor calibration	not done
Correct CLCs		Total CLCs			

Media-specific Calibrations

Media Name	Color	Paper Advance
Proofing Gloss Paper	Recommended	Default
HP Artist Matte Canvas	Recommended	Default
Bright White Bond Paper	N/A	Default
HP Collector Satin Canvas	N/A	Default
HP Professional Matte Canvas	Recommended	Default
Matte Film	N/A	Default
Canvas	Recommended	Default
HP Instant-dry Indoor Banner Gloss	Recommended	Default
Indoor Banner	Recommended	Default
Adhesive Vinyl	Recommended	Default
thierry	Recommended	Recommended
HP Universal Instant-dry Photo Semi-Gloss	Recommended	Default
Plain Paper	N/A	Default
HP Premium Instant-dry Photo Satin	Recommended	Default
Super Heavyweight Coated Paper	Recommended	Default
Transparent/Clear Film	N/A	Default
Photo Semi-Gloss/Satin Paper	Recommended	Default
Vellum	N/A	Default
HP Matte Litho-realistic Paper	Recommended	Default

General Calibrations

- **Printhead Alignment** relates to the Printhead Alignment which changes to 'pending' when a Printhead is replaced and the Printhead Alignment has not been performed.

NOTE: When a component is replaced, the corresponding calibration is NOT automatically set to 'NOT DONE'. This is because the Printer does not know that there is a new part installed.

- **Drop Detector** relates to the Drop Detector or Service Station calibration.
- **Line Sensor** relates to the Line Sensor Calibration.

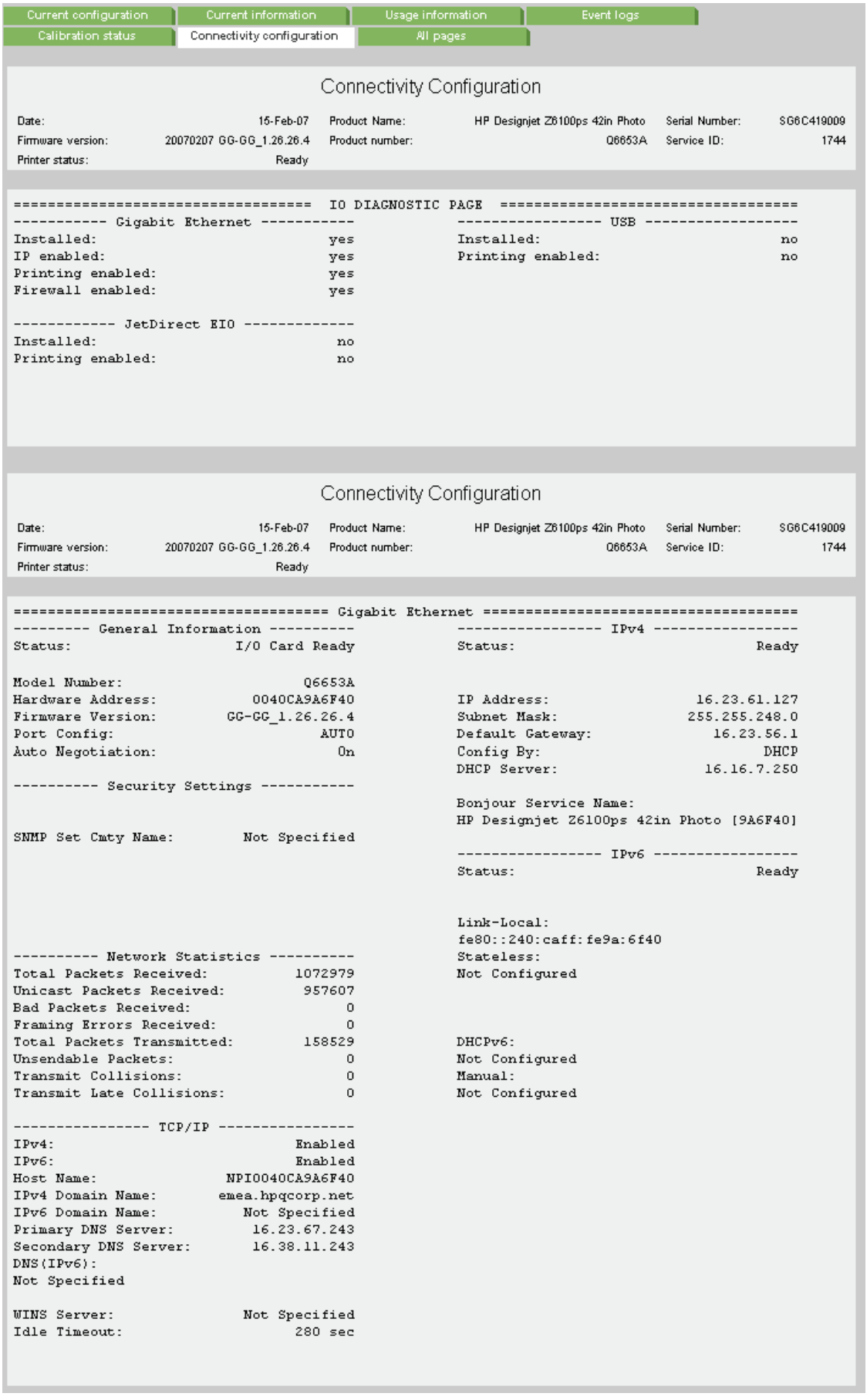
Media Specific Calibrations

This section shows the following for each type of media:

- Media Name.
- Color.
- Paper Advance.

Connectivity Configuration

This page contains full details of the current configuration of the Printer.



Current configuration | Current information | Usage information | Event logs
Calibration status | Connectivity configuration | All pages

Connectivity Configuration

Date:	15-Feb-07	Product Name:	HP Designjet Z6100ps 42in Photo	Serial Number:	SG6C419009
Firmware version:	20070207 GG-GG_1.26.26.4	Product number:	Q6653A	Service ID:	1744
Printer status:	Ready				

```
==================================  IO DIAGNOSTIC PAGE  ==================================
----------- Gigabit Ethernet -----------          ----------------- USB ------------------
Installed:                          yes           Installed:                           no
IP enabled:                         yes           Printing enabled:                    no
Printing enabled:                   yes
Firewall enabled:                   yes

------------ JetDirect EIO -------------
Installed:                           no
Printing enabled:                    no
```

Connectivity Configuration

Date:	15-Feb-07	Product Name:	HP Designjet Z6100ps 42in Photo	Serial Number:	SG6C419009
Firmware version:	20070207 GG-GG_1.26.26.4	Product number:	Q6653A	Service ID:	1744
Printer status:	Ready				

```
==================================== Gigabit Ethernet ====================================
--------- General Information ----------          ----------------- IPv4 -----------------
Status:                  I/O Card Ready           Status:                          Ready

Model Number:                    Q6653A
Hardware Address:          0040CA9A6F40           IP Address:               16.23.61.127
Firmware Version:      GG-GG_1.26.26.4            Subnet Mask:              255.255.248.0
Port Config:                       AUTO           Default Gateway:            16.23.56.1
Auto Negotiation:                    On           Config By:                        DHCP
                                                  DHCP Server:              16.16.7.250
---------- Security Settings -----------
                                                  Bonjour Service Name:
                                                  HP Designjet Z6100ps 42in Photo [9A6F40]
SNMP Set Cmty Name:       Not Specified
                                                  ----------------- IPv6 -----------------
                                                  Status:                          Ready


                                                  Link-Local:
                                                  fe80::240:caff:fe9a:6f40
---------- Network Statistics ----------          Stateless:
Total Packets Received:         1072979           Not Configured
Unicast Packets Received:        957607
Bad Packets Received:                 0
Framing Errors Received:              0
Total Packets Transmitted:       158529           DHCPv6:
Unsendable Packets:                   0           Not Configured
Transmit Collisions:                  0           Manual:
Transmit Late Collisions:             0           Not Configured

---------------- TCP/IP ----------------
IPv4:                           Enabled
IPv6:                           Enabled
Host Name:               NPI0040CA9A6F40
IPv4 Domain Name:       emea.hpqcorp.net
IPv6 Domain Name:         Not Specified
Primary DNS Server:        16.23.67.243
Secondary DNS Server:      16.38.11.243
DNS(IPv6):
Not Specified

WINS Server:              Not Specified
Idle Timeout:                   280 sec
```