



Service Manual

**HP Designjet
Z5200ps
Photo Printer**
Version 1: May 2010





HP Designjet Z5200ps GP Photo Printer - Service Manual

For HP Internal Use Only

©Copyright Hewlett-Packard Company 2010

This document contains proprietary information that is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced, or translated to another language without the prior written consent of Hewlett-Packard Company.

First Edition, May 2010

Notices

Warranty

The information contained in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

WARNING! The procedures described in this manual are to be performed by HP-qualified service personnel only.

Electrical Shock Hazard

Serious shock hazard leading to death or injury may result if you do not take the following precautions:

- Ensure that the ac power outlet (mains) has a protective earth (ground) terminal.
- Disconnect the Printer from the power source prior to performing any maintenance.
- Prevent water or any other liquids from running onto electrical components or circuits, or through openings in the enclosure.

Electrostatic Discharge

Refer to the beginning of [Diagnostic Menu on page 73](#) of this manual, for precautions you should take to prevent damage to the Printer circuits from electrostatic discharge.

Safety Symbols

General definitions of safety symbols are given immediately after the table of contents.

WARNING! The Warning symbol calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in personal injury. Do not proceed beyond a Warning symbol until the indicated conditions are fully understood and met.

CAUTION: The Caution symbol calls attention to an operating procedure, practice, or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the product. Do not proceed beyond a Caution symbol until the indicated conditions are fully understood and met.

Content Management Department,
Barcelona Division,
Hewlett-Packard Espanola, S.A.
Avda. Graells, 501
08190 Sant Cugat del Valles
Spain

Using this Manual

Purpose

This Service Manual contains information necessary to test, calibrate and service:

- HP Designjet Z5200 Photo Printer 44 inch (Model CQ113A)

For information about using this product, refer to the corresponding User and Quick Reference Guides.

Readership

The procedures described in this Service Manual are to be performed by HP Certified service personnel only.

Part Numbers

Part Numbers for Printer options, accessories and service parts are located in [Parts and Diagrams on page 151](#).

Conventions

A small arrow \Rightarrow indicates a link to other parts of the Service Manual where you can find information related to the topic you are consulting.

Table of contents

1 Ink Supplies Troubleshooting & Print Quality

Introduction	2
Troubleshooting System Error Codes	2
Performing a Service Test on a failed Assembly	2
Performing the Necessary Service Calibrations	2
Solving Ink Supplies Problems	3
Solving Print Quality Problems	3
Using the Front Panel	3
The Printer does not Power ON	4
The Printer Continuously Rejects Printheads	4
What to do if the Front Panel is blank	5
Cover Sensors are not Working	6
The Line Sensor has Problems Detecting Media	6
Problems with Color Accuracy	6
Troubleshooting Media Jams/Printhead Crashes	6
Banding at variable extreme environmental conditions	7
Worm marks on HP Coated media with light area fills	7
Solving Media-Handling Problems	7
What to do when plastic parts on the Media Basket become damaged during printer setup	8
Solving Ink Supplies problems	9
Ink Cartridges	9
Available Ink Cartridges	9
Printheads	10
Available Printheads	10
General Information About the Ink Supplies	10
General Precautions When Handling Ink Supplies	11
When Should You Replace the Ink Supplies?	11
Ink Cartridge Levels, Information, and Replacement	11
Ink Cartridge Levels	11
Obtaining Ink Cartridge Information	12
Changing an Ink Cartridge	13
Printhead Information, Replacement and Alignment	15
Obtaining Printhead Information	15
Changing a Printhead	16
Aligning Printheads	18
Ink Cartridge and Printhead Status Messages	20
Ink Cartridge Status Messages	20

Printhead status messages	20
Solving Ink Supplies Problems	21
You Cannot Insert the Ink Cartridge Into the Printer	21
You Cannot Insert the Printhead Into the Printer	21
The front panel says to reset or replace a printhead	21
Maintaining and Cleaning the Printheads	22
Clean the printheads	22
Flex Contacts Cleaning Tool	22
Print Quality	23
Print Quality Troubleshooting Actions	23
The Service Image Quality Diagnostic Print	24
What is the Service Image Quality Diagnostic Print?	24
Considerations for Printing the Diagnostic Print	24
Printing the Diagnostic Print	24
Reading the Diagnostic Print Results	25
Diagnostic Part 1: Printhead Reliability	25
Diagnostic Part 2: Printhead Alignment	26
Diagnostic Part 3: Printheads & Paper Advance	28
No Printing Defects Found in the Diagnostic Print	29
The Advanced Diagnostic Prints	29
What are the Advanced Diagnostic Prints?	29
Printing the Advanced Diagnostics Print	30
Reading the Advanced diagnostic Print Results	30
Paper Advance	30
Printhead Alignment	33
Nozzle Health	34
Force Drop Detection	35
Troubleshooting Print Quality Problems	36
Print Quality General Advice	36
Horizontal Lines Across the Image (Banding)	36
Lines are Missing, Too Thin, or Too Thick	37
Problems with Stepped Lines	37
Lines are Printed Double or in Wrong Colors	38
Lines are discontinuous	38
Lines are Blurred (Ink Bleeds from Lines)	39
Problems with Graininess	39
Paper is not Flat	40
Print Scuffing or Scratching when Touched	41
Ink marks on the paper	41
Problems with the Edges of objects	42
Bronzing	42
Black and white prints do not look neutral	43
Horizontal lines at the end of a cut sheet print	43
Vertical lines of different colors	43
White spots on the print	43
Problems with Color Accuracy	43
Output Only Contains a Partial Print	44

Problems with Image Clipping	44
Some objects are missing from the printed image	45
A PDF file is clipped or objects are missing	45

2 System Error Codes

Introduction	46
Continuable and Non-Continuable Error Codes	47
System Error Code Brief Descriptions	47
System Error Codes - Full Descriptions	50

3 Diagnostic Menu

Introduction	74
Diagnostics - Self Test	74
Service Tests (Diagnostics)	74
Entering the Service Tests Menu	76
1. Scan Axis	76
2. Paper Drive	87
3. Electronics Module	90
4. Carriage Assembly	95
5. Sensors	101
6. Color Sensor (ESP)	104
7. Ink Delivery System (IDS)	106
8. Service Station	110
9. I/O Information	117
10. Unit Information	117
11. EEROM Reset	119
12. Set Unit Configuration	120
13. Error 71:19 Recovery	120
.....	123

4 Service Menu

Entering the Service Utilities Menu	124
Introduction	125
.....	126
1. Turn Drive Roller	126
2. Purge Tubes	128
3. Set SN	130
4. Reset Life Counters	131
5. Diagnostic Print	132
6. Set Date and Time	132
7. Enable/Disable Firewall	133
8. Enable/Disable Sleep Mode	134
9. SNMP Language Write Access	135
10 Borderless Cut Distance	137
Service Calibrations	138
Entering the Service Calibrations Menu	139

Scan Axis Calibration	139
Service Station Calibration	140
Paper Advance Calibration	140
Drop Detector Calibration	145
Line Sensor Calibration	146
Carriage PCA	149
Color Sensor (ESP) Calibration	149

5 Parts and Diagrams

Printer Support	152
Center Covers (Front)	153
Center Covers (Rear)	154
Right Cover	155
Left Cover	156
Right Hand Assemblies	157
Left Hand Assemblies	158
Carriage Assembly	159
Scan-Axis Assemblies	160
Paper Path Assemblies (Front)	161
Paper Path Assemblies (Rear)	162
Tools 1	163
Tools 2	164
Miscellaneous Parts	165

6 Removal and Installation

Introduction	169
Safety Precautions	169
Electrostatic Discharge (ESD) Precautions	169
Required Tools	169
Service Calibration Guide to Removal and Installation	170
Using the Service Calibration Guide	170
The Service Calibration Matrix	171
Performing the Service Calibrations and Diagnostic Tests	172
Window	174
Front Cover	177
Media Output Assembly	178
Right Front Trim	179
Left Front Trim	181
Right Ink Cartridge Door	182
Left Ink Cartridge Door	183
Right Cover	185
Left Cover	188
Rear Tray	194
Rear Cover	195
Media Lever	196
Media Lever Position Sensor	198

Cutter Assembly	199
Right Rear Tray Support	200
Left Rear Tray Support	201
Front Panel	203
Top Cover	205
Window Position Sensor	208
Ink Supply Tubes Support Rail	209
Service Station	214
Drop Detector	217
Aerosol Fan Assembly	219
PrintMech PCA	220
Pen to Paper Space (PPS) Solenoid	221
Spindle	223
Left Spindle Holder	224
Right Spindle Holder	224
Clean Out Assembly	225
Out Of Paper Sensor	226
Left Roll Guide	229
Right Roll Guide	230
Encoder Strip (with spring and attachment nut)	231
Clean Encoder Strip Procedure	234
Encoder Strip	236
Trailing Cable	237
Carriage Assembly (with or without Trailing Cable)	244
Carriage Rear Bushing	254
Belt Assembly	256
Scan-Axis Motor	257
Carriage Rail Oiler	260
Color Sensor (ESP)	262
Line Sensor	267
Carriage Cover (includes Carriage Latch)	272
Carriage PCA	276
Right Ink Supply Station	280
Left Ink Supply Station	284
Ink Supply Tubes	288
Formatter	296
Hard Disk Drive	297
Electronics Module (Main PCA and PSU)	298
Starwheel Assembly	301
Print Zone Overdrive	302
Left Spittoon	306
Encoder Disk and Encoder Sensor	308
Media Advance Drive	311
Pinchwheel Assembly	314
Pinch Roller	319
Left Starwheel Lifter	320
Right Starwheel Lifter	322

Starwheel Motor	325
Full Bleed Foam	326

7 Preventive Maintenance

Preventive Maintenance	328
Moisture on the Printer	328
Noisy Carriage Bushing	328
Belt Swelling	328
Cleaning the Printer	328
Carriage Assembly Lubrication	328
General Cleaning	329
Cleaning the Drive Roller and Overdrive	329
Level of Printer Usage	329
Preventive Maintenance Kits	330
Preventive Maintenance Kit #1	330
Preventive Maintenance Kit #2	331

8 Printer menu Map