

# Pira List



Cheque &  
Credit  
Clearing  
Company

**Pira/C&CCC NON-IMPACT  
Print Research Results**

September 2008

## **Pira/C&CCC NON-IMPACT PRINT RESEARCH RESULTS**

### **IMPORTANT NOTE:**

The Cheque and Credit Clearing Company (C&CCC) commissions Pira International ("Pira") to carry out tests of various non-impact printers to examine the mechanical removal of print on various types of cheque paper. This work is commissioned at the request of C&CCC Members for their own business use and that of C&CCC. It is not intended to be a comprehensive examination of all aspects of all known printers. The test methodology aims to replicate known methods employed by fraudsters in making alterations to cheques.

The tests are carried out entirely by Pira in accordance with testing procedures devised by them in consultation with C&CCC.

Pira have an established reputation of competence and skill in testing of this kind; however, C&CCC can accept no responsibility for the selection of the printers or for the results of the tests.

The following information regarding the results is provided business purposes. Without the express permission of C&CCC, it must not be:-

- 1) altered or amended in any way
- 2) used for any purpose other than that set out above.

This information is provided on the basis that C&CCC and its members and APACS either individually or collectively accept no responsibility for any loss, damage, cost or expense of whatsoever kind arising directly or indirectly from or in connection with the use by any person of any information or other material contained herein. Any use of any of the information or other material contained in this document by you shall signify agreement by you to this provision.

Notwithstanding the above, C&CCC does not seek to exclude or limit in any way any liability for personal injury or death arising directly from the negligence of that company.

The provision of the following information and the information itself is not intended to and should not be understood to constitute in any way any comment, conclusion or representation on the part of C&CCC or any of its members as to the soundness or appropriateness of any printer for use in cheque printing or otherwise, nor is it intended to and should not be understood to constitute any comment, conclusion or representation with regard to any printer which does not appear within the following information.

**Pira report to us that (when using cheque paper (CBS1) to the specifications laid out in APACS Standard 3) the following printers are defined by them, based on their test results under the specified conditions only, as being Grade I printers which can produce in-filling of cheques which is comparable with average impact printing in-filling of cheques in regard to resistance to certain known fraudulent methods of attack. Pira recommends that in using any of these printers for cheque in-filling, they be used in conjunction with the C&CCC Guidelines for the Correct Storage and Printing Conditions for Cheque Paper, as current from time to time.**

**APACS approval for MICR code line printing covers the following paper types:  
CBS1 for encoding cheques and bank giro credits  
CBS2 for encoding bank giro credits**

**Printer Status:**

**Archive = Printer whose 2 year qualification period has expired but has not been renewed following notification by Pira. Where these printers are already in use for infilling cheques then they may continue to be used for that purpose. However, if looking to purchase a new printer, it is recommended that a printer, which is under current qualification, is considered.**

**Current = Printer who is within the 2 year qualification period or has undergone further renewal process since its first qualification date.**

***Correct as at May 2008***

**LASER PRINTERS**

Printer	Status C= Current A = Archive	Pira Approval Date	SPECIFIED CONDITIONS			APACS approved for MICR codeline printing	
			Toner Type	Speed (ppm)	Sheet or Web fed#	CBS1	CBS2
Aficio MP1100	C	Nov 2007	Type 1350E	110	S		
ATI Fast Check 60	A	Jan 1999	Non magnetic toner ref. 310981-502	60	S		
ATI 5060	A	May 2000	Standard non magnetic toner	60	S		
ATI 7070	A	Jan 2001	Standard toner ref: 399070-950	70 A4	S		
Brother HL 2460 MICR	A	May 2003	Manufacturers MICR Tech MT27 MICR toner	22 A4	S		
Brother HL 2700	C	Oct 2005	Brother toner ref: TN-04BK (black)	8 A4	S		
Brother HL – 4050CDN colour laser printer range including versions HL – 4040CN,HL – 4070CDW,DCP – 9040CN,DCP- 9045CDN,MFC-9440CN and MFC-9840CDW	C	March 2008	Standard Brother polymerized black: TN- 130BK/TN-135BK	20 A4	S		
Brother HL5150D/5170DN	A	Feb 2004	Manufacturers standard toner ref. TN3030	20 A4	S		
Brother HL5240 Series including HL5250DN/ HL5270DN/HL5280DW and multifunctional devices: MFC8460, HFC8860DN, MFC8870DW, DCP8060, DCP8065DN	C	Mar 2006	Manufacturers standard toner TN3130/TN3170	28 A4	S		
Brother HL6050/D/DN	A	May 2004	Manufacturers standard toner ref: TN4100	24 A4	S		
Brother HL7050/N	A	May 2004	Manufacturers standard toner ref: TN5500	28 A4	S		

Printer	Status C= Current A = Archive	Pira Approval Date	SPECIFIED CONDITIONS			APACS approved for MICR codeline printing	
			Toner Type	Speed (ppm)	Sheet or Web fed#	CBS1	CBS2
Delphax CR Series (1300T with MICR toner)	A	Jan 2003	MICR toner ref: M10335	300 ft/min	W	Yes	Yes
Delphax Technologies Ltd Imaggia MG20	A	Apr 2001	MICR toner ref. 6716	100 ft/min	S	Yes	Yes
Delphax Technologies Ltd PS75 MICR	A	Aug 2000	MICR No B-2-39	75 A4 ppm / 37.5 A3 ppm	S	Yes	
Delphax Technologies Ltd PSI PP 4050/60 MICR	A	Jun 2001	Manufacturer's MICR toner	59 A4	W	Yes	
Europatec 16e	A	Dec 1997	Manufacturers standard toner, fuser 185°C, density 3	16	W		
Genicom MI450	A	Nov 2002	MICR toner ref: 230101908 <b>Supplied through CPG International</b>	45 A4 ppm	S		
HDS 6860	A	Nov 1997	Manufacturers standard toner	60	S		
Hitachi Koki DDP70 MICR	A	Jun 2002	Rosetta MICR toner, ref: 01-TK70M	70 A4	S	Yes	Yes
Hitachi DDP184	A	Mar 2003	Black toner ref. NH-427SG17 Blue toner ref. YSK-TCB74 Red toner ref. YSK-TCR15	92 A4	S		
HP Laserjet 1320	C	Nov 2005	MICR toner ref: MICR-TC-LJ 1320B H2 temperature setting <b>Supplied through SAX</b>	22 A4	S		
HP Laserjet 2420/2430	C	Jul 2005	MICR toner ref. MICR-TC-LJ2420B/LJ2430B. H2 temperature setting <b>Supplied through SAX</b>	30 A4	S		
HP Laserjet 3005	C	Apr 2007	MICR ref. MICR-TC-LJ3005, supplied by Bluemega Technology Limited	33 A4ppm	S		
HP Laserjet 4000	A	Dec 1998	MICR toner ref. MICR-TC-LJ4000 <b>Supplied through SAX</b>	16	S		

Printer	Status C= Current A = Archive	Pira Approval Date	SPECIFIED CONDITIONS			APACS approved for MICR codeline printing	
			Toner Type	Speed (ppm)	Sheet or Web fed#	CBS1	CBS2
HP Laserjet 4050	A	Feb 2000	MICR toner ref. MICR-TC-LJ4000 User fuser setting configured to cardstock (high temperature). Use tray 2 only, NOT manual feed. <b>Supplied through SAX</b>	16	S	Yes	
HP Laserjet 4100/4150	A	Sep 2001	MICR toner ref: MICR-TC-LJ4100/4150 User fuser setting configured to cardstock (high temperature) <b>Supplied through SAX</b>	25 A4	S	Yes	
HP Laserjet 4200/4300	A	Feb 2003	MICR toner ref: MICR-TC-LJ4200 <b>Supplied through SAX</b>	33/43 A4	S	Yes	
HP Laserjet 4250	C	Jul 2005	MICR toner ref. MICR-TC-LJ4250B H2 temperature setting <b>Supplied through SAX</b>	45 A4	S		
HP Laserjet 4350	A	Mar 2005	MICR toner ref: Q5942ACS <b>Supplied through Checkprint and Tall Security Print Limited</b>	55 A4 ppm	S	Yes	Yes
HP Laserjet 4350	C	Jul 2005	MICR toner ref. MICR-TCLJ4350B H2 temperature setting <b>Supplied through SAX</b>	55 A4	S		
HP CM8060 Colour MFP	C	Nov 2006	HP Black ink cartridge with Vivera ink.	60 ppm	S		
HP Laserjet 8100/8150	A	Jul 2000	Manufacturers MICR-TC-LJ8100 <b>Supplied through SAX</b>	32	S	Yes	
HP Laserjet 8150	A	Jul 2001	Checkprint MICR Toner <b>Supplied through Checkprint and Tall Security Print Limited</b>	32	S	Yes	Yes
HP Laserjet 9000	A	Feb 2003	MICR toner ref: MICR-TC-LJ9000 <b>Supplied through SAX</b>	50 A4	S	Yes	
IBM InfoPrint 60 (3160 Model 002)	A	Sept 1998	Manufacturers standard toner No. 1402822	60	S		
IBM InfoPrint 70	A	Mar 2001	Manufacturers standard toner No. 69G7372	70 A4	S		
IBM InfoPrint 62	A	Dec 2000	Manufacturers standard toner No. 69G7306	64 A4	W		

Printer	Status C= Current A = Archive	Pira Approval Date	SPECIFIED CONDITIONS			APACS approved for MICR codeline printing	
			Toner Type	Speed (ppm)	Sheet or Web fed#	CBS1	CBS2
IBM InfoPrint 2000 @ 600 dpi	A	Aug 2000	Standard toner ref. 69G7315 auto-fusing temp/Print density setting 1	110 ppm (A4)	S		
IBM 3900-OW1	A	Mar 2002	Manufacturers standard toner No. 1402822 Print contrast setting at 1 or 4	162 ft/min	W		
IBM InfoPrint 4000 Models ID1/ID2, IS1	A	Dec 2000	Non magnetic toner ref. 1402822 240dpi & 300dpi 200°C new hot roll part No. 24H9785 New steering springs heavy duty version part No. 30H6607	162 ft/min	W		
IBM InfoPrint 4100 Model HS1 HD1/2	A	Aug 2002	Standard toner ref. 69G7377	175 ft/min.	W		
IBM InfoPrint 4100 Model HD3/4	A	Nov 2003	Standard toner ref: V3 57P1887 Developer ref: 57P892	230 ft/min	W		
IBM InfoPrint 4100 Model HD3/4	A	Nov 2003	Standard toner ref: V3 57P1887 Developer ref: 57P1892	280 ft/min	W		
IBM InfoPrint 4100 HD3/4 MICR	A	Jun 2003	MICR toner ref: 57P2074 Developer ref: 57P2100	230 ft/min.	W	Yes	Yes
IBM InfoPrint 4100 (MICR) Model HS1 HD1/2	A	Aug 2002	MICR toner ref. 57P2074	175 ft/min.	W	Yes	Yes
IBM InfoPrint 4100 HD5/6 MICR including HS3	C	April 2007	MICR black toner ref. 57P2074	280 ft/min.	W	Yes	Yes
IBM InfoPrint 4100 HD5/6 MICR including HS3	C	April 2007	Standard black toner ref. V2 69G7377	330 ft/min.	W		

Printer	Status C= Current A = Archive	Pira Approval Date	SPECIFIED CONDITIONS			APACS approved for MICR codeline printing	
			Toner Type	Speed (ppm)	Sheet or Web fed#	CBS1	CBS2
Kodak Digimaster EX110 <b>(Previously known as 9110m) (Heidelberg)</b>	A	Apr 2003	Manufacturer's MICR toner <b>Supplied through NexPress Solutions (USA)</b>	110 A4	S	Yes	Yes
Kodak Digimaster EX125 <b>(Previously known as E125)</b>	A	Jul 2004	Manufacturer's MICR toner <b>Supplied through NexPress Solutions (USA)</b>	125 ppm A4	S	Yes	Yes
Kodak Digimaster EX138	C	Apr 2008	Kodak Digimaster Black M1 Toner (MICR)	138 A4 ppm	S	Yes	Yes
Kodak Digimaster EX150 <b>(Previously known as E150)</b>	A	Jun 2004	Manufacturer's MICR toner <b>Supplied through NexPress Solutions (USA)</b>	150 ppm A4	S	Yes	Yes
Kodak Digimaster 9110 <b>(Heidelberg)</b>	A	Jun 2002	Manufacturer's standard toner <b>Supplied through NexPress Solutions (UK)</b>	110 A4	S		
Kodak Digimaster 9150 <b>(Heidelberg)</b>	A	Dec 2002	Manufacturer's standard 'D1 toner' <b>Supplied through NexPress Solutions (UK)</b>	150 A4 ppm	S		
Kodak Nexpress S3000	C	Apr 2008	Kodak Nexpress MICR black dry ink	100 A4	S	Yes	Yes
Konica Minolta bizhub 420	C	Feb 2007	Black TN 511	42 ppm	S		
Konica Minolta bizhub 750	C	Feb 2007	Black TN 710	75 ppm	S		























