



Duplex Printing

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1: Basic Overview

Duplex printing is a common term used to describe automatic double-sided printing. It means that you do not have to manually turn over a piece of paper when you need to print on both sides of it. Instead, the printer or MFP device can automatically do it for you.

This white paper looks at the advantages of doing this along with a brief step-by-step guide for how to set it up. It then looks at the mechanics behind duplex printing, explaining what happens to your piece of paper from it going into the printer to coming out. This section is particularly useful when troubleshooting.

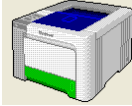

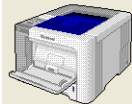
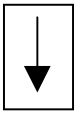
2: Benefits

- Easily & quickly produce professional looking documents
- Immediately start saving paper
- Immediately start saving money
- It saves you time, letting you get on with other important tasks
- It is beneficial to the environment

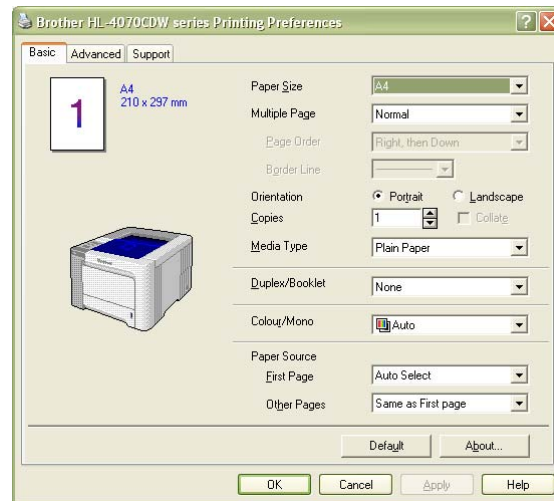
3: How to use

Please note that these instructions show you how to configure a HL-4070CDW for duplex printing. Other devices may differ slightly.

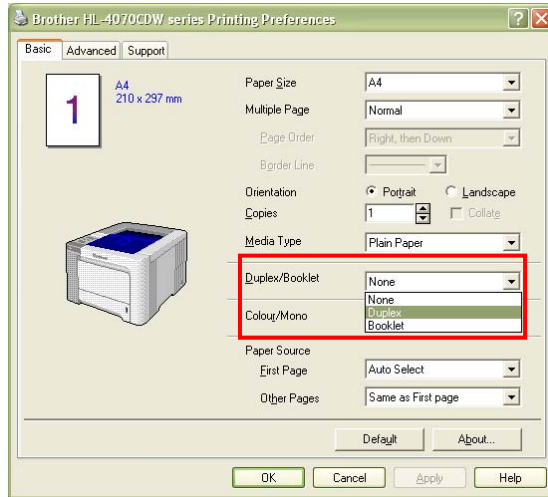
Step 1: Insert your paper, ensuring that it is the correct way up if it is letterheaded.

Tray(s)	Paper orientation
Lower tray(s) 	 Insert paper right way up with the letter head facing towards the front
Manual Feed 	 Insert paper upside down with the letter head faced away from the printer

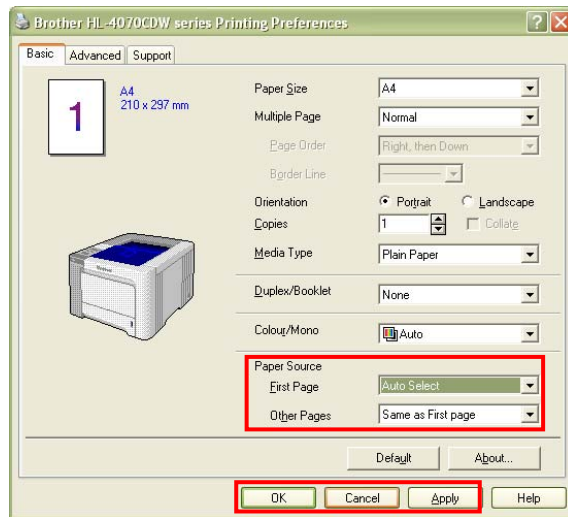
Step 2: Go into your devices 'Printing Preferences' (either through the printer menu in Windows® Control Panel or within the application you want to print from).



Step 3: Select 'Duplex' from the 'Duplex / Booklet' drop down menu'.



Step 4: Select the appropriate paper source (MP tray, lower tray or optional lower tray). Click on the 'Apply' button then on 'OK'.



Step 5: Print your document

4: Theory of operation

4.1: The journey of your piece of paper

Brother print / MFC devices print the even page first followed by the odd page. The table below shows what happens when you print a 5 paged document in duplex.

Stage	Page printed	Sheet	What is happening?	Pickup / Exit
1	Page 2	Sheet 1	The 1 st sheet enters the printer and page 2 is printed	1 st pickup
2	Page 1	Sheet 1	The printer automatically turns the paper over then prints page 1	2 nd pickup
3		Sheet 1	The paper exist the printer with page 2 facing up	Exit machine with page 2 face up
4	Page 3	Sheet 2	The 2 nd sheet enters the printer and page 4 is printed	1 st pickup
5	Page 4	Sheet 2	The printer automatically turns the paper over then prints page 3	2 nd pickup
6		Sheet 2	The paper exist the printer with page 4 facing up	Exit machine with page 4 face up
7	Nothing printed	Sheet 3	The 3 rd sheet enters the printer and nothing is printed	1 st pickup
8	Page 5	Sheet 3	The printer automatically turns the paper over then prints page 5	2 nd pickup
9		Sheet 3	The paper exist the printer with page 5 face down	Exit machine with page 5 face down

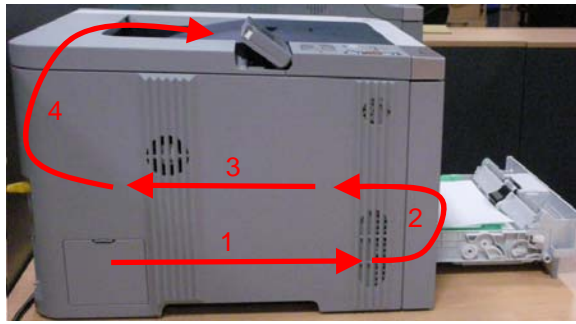
4.2: Paper orientations explained

At first glance it may seem unusual why you need to position the paper in the manual feed tray in the opposite direction to the lower tray.

This is why.

When printing from the lower tray, the paper sits underneath all the printing mechanisms. For it to get to these printing mechanisms, it is pulled towards the front of the machine where it does 180° turn. This action flips the paper over.

1. Paper sitting in the lower tray is pulled towards the front of the machine
2. The paper is flipped over so that it faces the opposite direction
3. The printing process occurs
4. The paper is flipped again where it exits the machine
5. Before fully existing, the paper is pulled back into the machine where it is printed to on the other side.



When printing from the manual feed tray, the paper does not need to do an initial 180°. Instead, it is pulled directly into the printing mechanisms. This is why when you print from the MP tray the paper is required to be in a different position.

1. The paper is pulled from the manual feed tray and printed to
2. The paper is flipped over towards the rear of the machine where it exits
3. Before fully existing, the paper is pulled back into the machine where it is printed to on the other side.

