Technical white paper

HP EveryPage

Ensuring easy, reliable scanning

Landscape IT Works
A Xeretec Company

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Technology overview

With HP EveryPage, you can have confidence that your documents are reliably scanned. This set of innovative technologies helps ensure a dependable on-ramp to your digital workflow. HP EveryPage technologies enable accurate, dependable scanning of almost any document type, even mixed stacks of different paper sizes and weights. Whether you scan correspondence that has been folded, mixed stacks, business documents, or even ID cards, HP LaserJet multifunction products (MFPs), HP Scanjet scanners, and HP digital senders with HP EveryPage deliver the peace of mind that comes with knowing that you'll never miss a page.[1]

HP Digital Sender Flow 8500 fn1

HP Color LaserJet Enterprise Flow MFP M577

HP LaserJet Enterprise Flow MFP M630z

HP Color LaserJet Enterprise flow MFP M880z

Benefits

HP EveryPage provides the following benefits:

- Confirm that a single sheet has been separated from the stack for processing using an ultrasonic transmitter and receiver.
- Rely on simple, hassle-free scanning for nearly any kind of input, including mixed stacks of documents.
- Minimize your downtime due to misfeeds and stoppages with precise, variable-pick technologies that accommodate a variety of media types and sizes and deliver fast, efficient scanning.
- Enjoy peace of mind, knowing that all your data has been captured by HP EveryPage which employs innovative safeguards in the event of a misfeed or stoppage.

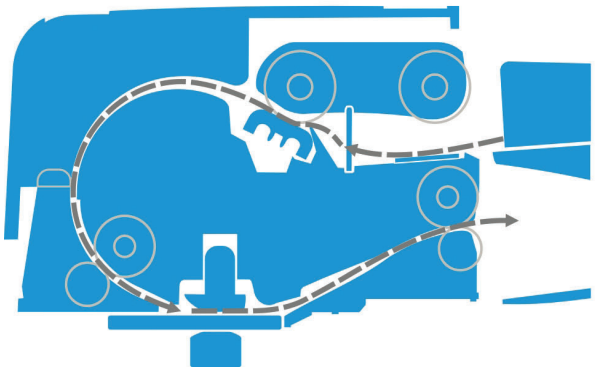
Devices featuring HP EveryPage[1]

- HP Scanjet Enterprise Flow 5000 s2
- HP Scanjet Enterprise Flow 7000 s2
- HP Scanjet Enterprise Flow 7500
- HP Digital Sender Flow 8500 fn1 Document Capture Workstation
- HP Scanjet Enterprise Flow N9120
- HP LaserJet Enterprise Flow MFP M527c/z
- HP Color LaserJet Enterprise Flow MFP 577c/z
- HP LaserJet Enterprise Flow MFP M630z
- HP LaserJet Enterprise Color Flow MFP M680z
- HP LaserJet Enterprise flow MFP M830z
- HP Color LaserJet Enterprise flow MFP M880z/z+

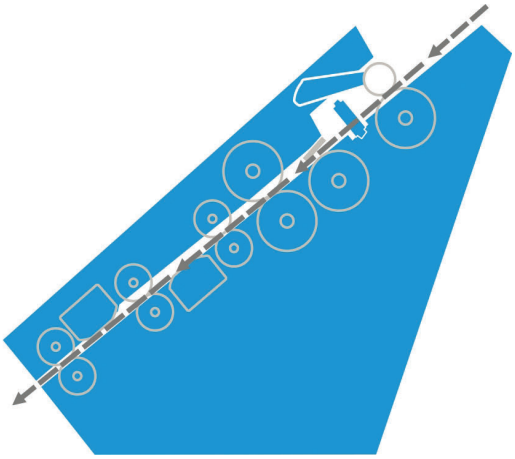
How does it work?

Two ADF architectures

First, a word on the two automatic document feeder (ADF) types employed by HP MFPs, scanners and digital senders with HP EveryPage. Depending on the device type, either a C-path or straight-path ADF is used. The C-path ADF picks the top page from the input tray and feeds it through a half-circle, C-shaped path for processing. The straight-path ADF picks the bottom page from the input tray and feeds it directly through the ADF. Both ADF types preserve the page order of the paper placed in the input tray. The two paths are illustrated below.



C-path ADF cross section



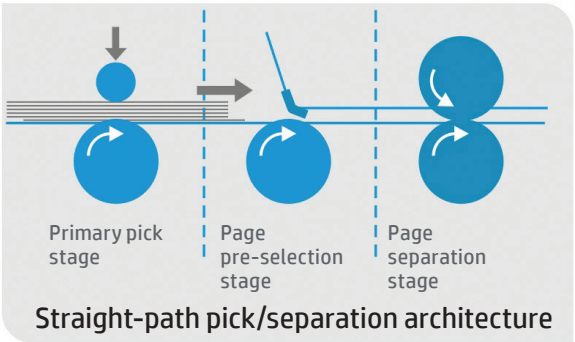
Straight-path ADF cross section

Multiphase pick process

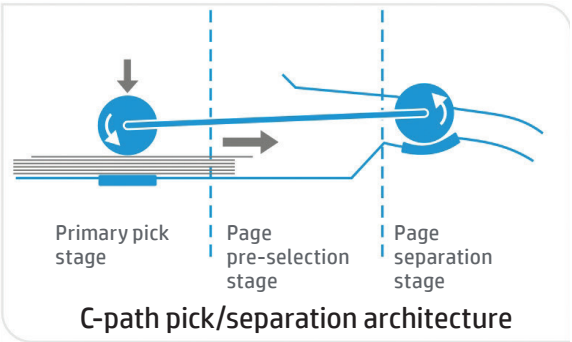
The multiphase pick process divides a stack of paper into increasingly smaller stacks for accurate scanning of each page. Separation occurs in stages, minimizing the possibility of feeding multiple pages to the scanner. From the full stack of paper in the input tray, the device first selects a small stack. This small stack is then further reduced as it passes through three separation stages, until one sheet is singled out and scanned. The final separation of one page is described in greater detail under “Advanced separation” on page 5.

The diagrams below illustrate this process for C-path and straight-path ADFs.

Multiphase pick process architecture
Phase 1: Engage pick and separation rollers

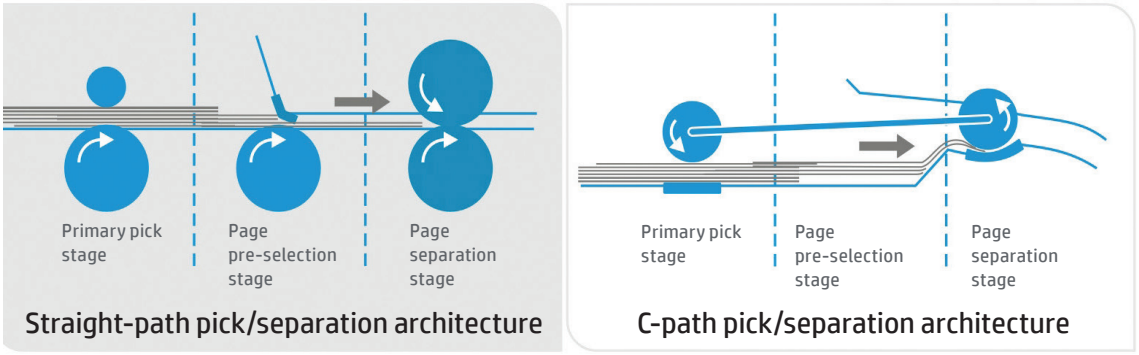


Straight-path pick/separation architecture

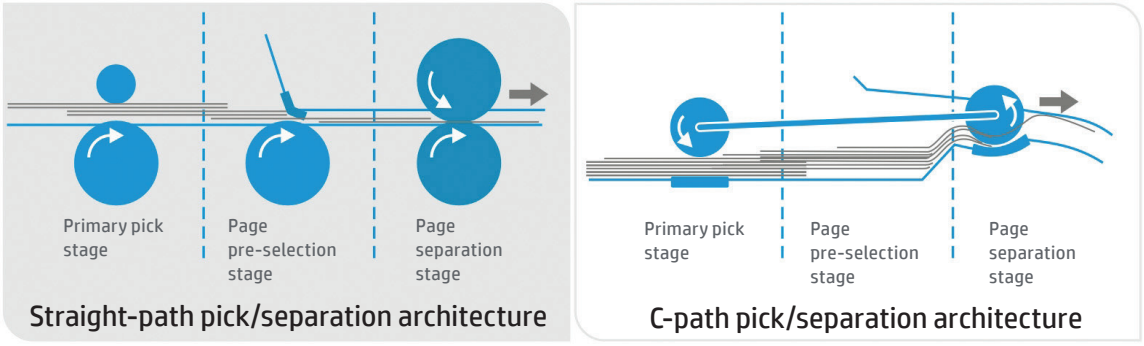


C-path pick/separation architecture

Phase 2: Pre-separation stage feathers pages to separation stage



Phase 3: Finally, one page is separated and sent to the scanner

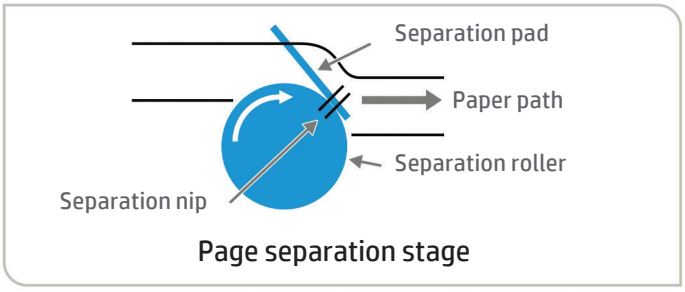


Advanced separation

Advanced separation technology ensures that a single page is separated from a stack and fed for scanning. In this third and final stage of the pick process, the device picks a single page at the point where the separation roller contacts a surface (such as a pad or a roller) that produces the separation. HP devices with HP EveryPage employ an advanced separation surface called a nip that complements the shape of the roller. The nip´s effectiveness is determined by its shape, its surface area, and the material used. The contact surface area of the nip used in HP MFPs, scanners, and digital senders with HP EveryPage is typically greater than that used in traditional page-separation technologies. This results in greater performance, significantly reducing the possibility of feeding multiple pages at once.

Traditional low-cost separation stage

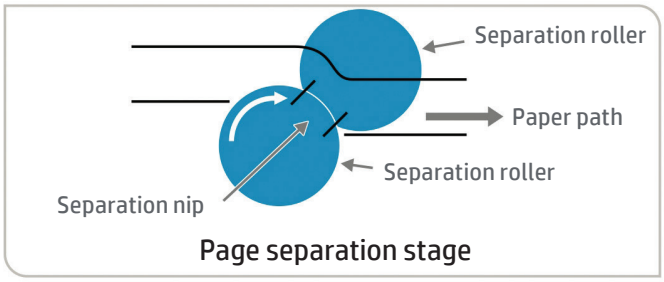
Separation roller with stiff separation pad



1. Paper separation occurs only in the separation nip
2. Separation nip for this design type is 1 to 1.5 mm in length
3. Separation force is limited to a small separation nip area

Advanced separation stage

Separation roller with compliant separation roller or pad



1. Paper separation occurs only in the separation nip
2. Separation nip for this design type is 5 to 6 mm in length
3. Separation force is spread over the extended separation nip length, providing significantly enhanced separation performance

Intelligent picking

Intelligent picking prevents stoppages and paper damage. HP MFPs, scanners and digital senders with intelligent picking first apply the minimum amount of force required to pick a page from the stack. If this amount of force is not adequate, the device makes a second attempt, adjusting the roller speed and/or pressure. This process minimizes document wear and tear while ensuring that pages process without interruption.

In the event that the device is unable to pick a page, it stops the scanning process, and prompts you to reload the pages that were not scanned. Pages that have already been scanned are stored in memory, so that you don t have to process the entire stack again.

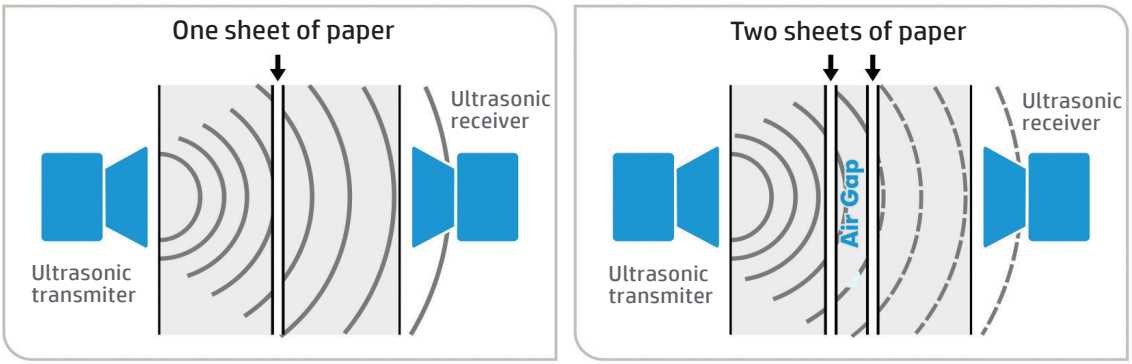
Mixed-stack handling

Mixed-stack handling saves time by allowing you to scan papers of different sizes and types, which means you don t have to pre-sort input for scanning. Paper is manufactured in a wide range of sizes, weights, and textures, such as magazine paper, newspaper, receipts, postcards, and ID cards. HP devices with HP EveryPage are engineered to support this variety of media, while maintaining high scanning performance.

Ultrasonic multi-feed

Ultrasonic multi-feed technology uses sound waves to verify that a single sheet has been separated from the stack for processing. If the device detects multiple pages, it stops the feeding process and notifies you of the error. Pages that have already been scanned are stored in device memory, which means that you don t have to restart your scan from the beginning.

Ultrasonic multi-feed detection



- Ultrasonic waves are high-frequency (inaudible) sound
- They pass easily through a single sheet of paper
- If two sheets overlap, the small air gap between them reduces the signal at the receiver. The device senses that reduced signal, stops, and then displays a message to the user on the computer screen

Summary

Get the peace of mind that comes with knowing that your documents will be accurately and dependably scanned for archiving or integration into your digital workflow. HP EveryPage delivers reliable separation and picking that minimizes the chance of a misfeed, as well as intelligent safeguards that save the work you ve already performed. HP LaserJet MFPs, HP Scanjet scanners and HP digital senders with HP EveryPage deliver robust input processing, accommodating paper of various sizes and weights, and even mixed stacks of paper.[1]

Notes

[1] HP EveryPage is referred to as HP Precision Feed on HP Scanjet devices introduced before 2013.

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