

Best in Class

Office 30+ PPM A4 Color MFPs

Konica Minolta bizhub C35

In this *Head2Head Comparison Report*, Wirth Consulting looked at Office 30+ ppm A4 Color MFPs with an eye towards both functionality and value. We determined that Konica Minolta's bizhub C35 was the standout in the field, earning Best In Class. Overall, Wirth Consulting found that the bizhub C35 best met our rating criteria by virtue of the following:



Total Cost of Ownership and Cost Per Page

The bizhub C35 has a very economic acquisition price of \$3,499.00, which is approximately half that of comparable A3 systems and some competitive A4 systems. Additionally, its black and color cost per page of 1.3 and 10.8 cents respectively was among the lowest in this group.

A3 Functionality and Feature Set

Second, although the bizhub C35 is an A4 system, it's been equipped with a complete A3 feature set with no skimping—all at a considerably lower price than a comparably-featured A3 system. The bizhub C35 is not only built on Konica Minolta's Emperon Print System, which we have tested and have found productive and capable of very good image quality, but it also includes virtually all of the capabilities provided by Konica Minolta's strong lineup of A3 color bizhubs:

- Network print and scan (with LDAP support for scan to e-mail) and copy, all in color, as well as walkup fax, PC fax and Internet fax.
- bEST open-development platform for incorporating advanced applications such as print-management and cost control applications that are accessible from the control panel.
- bizhub SEND for sending to multiple destination types in a single operation.
- Extensive security provisions (network user authentication, hard-drive overwrite and encryption, create encrypted PDFs, etc.).
- Complete PageScope Suite for accounting, network management, etc.
- A Universal Print Driver that makes print-driver deployment and use easier in enterprise installations.



Terry Wirth, President

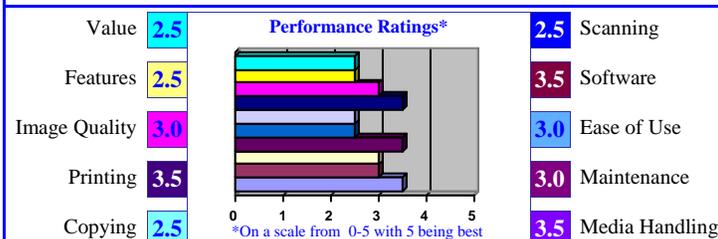
Awarded: July 21, 2010

Wirth Consulting - Office ©Head2Head Comparison

Make InfoPrint	Imaging Laser
Model Color 1764 MFP	Functions Print/Copy/Scan/Fax
Base Price \$5,339.00	 
Max Mo. Duty Cycle (pages) 150,000	
BW/Color Print Speed (ppm) 40/35	
Max Media Width (inches) 8.50	
Classification Office 30+ PPM A4 Color MFPs	

Product Overview

InfoPrint's Color 1764 MFP is driven by an 800 MHz CPU, has 768 MB of memory, and is rated at up to 40 (B/W)/35 (color) ppm. Of note is this color MFP's large, easy-to-use color touch screen, and optional document finishing. There's color capability in print, copy and scan modes; fax is monochrome black only. The Color 1764 provides broad operating system support, including Microsoft Windows, Apple Mac, Linux, UNIX, etc. Generous toner (15,000 pages) and media capacity (1,600 sheets) facilitates higher-volume output. High toner and media capacity, along with competitive cost per page and total cost of ownership makes this unit Well Worth Consideration.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
35.0	\$0.02060	\$0.10480

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$6,375.00	\$11,283.00	\$7,930.89
2,000 pages per month	\$7,811.00	\$17,915.00	\$11,067.21
3,000 pages per month	\$9,047.00	\$24,203.00	\$13,958.01
4,000 pages per month	\$10,283.00	\$30,491.00	\$16,848.81
5,000 pages per month	\$11,519.00	\$36,779.00	\$19,739.61

*Base Price

Strengths	Limitations
<ul style="list-style-type: none"> Standard Ethernet 10/100Base-TX; optional Ethernet 10/100BaseTX, 10/100/1000BaseT, and 802.11g wireless. Software for limiting and controlling color costs. Security includes secure printing, authentication, hard-drive erasing. Capable MarkVision network management solution.. Standard 40-GB hard drive. Network TWAIn scanning; scan to USB memory devices, e-mail, FTP, LDSS, PC. Scan to and print from USB memory drives. Print on 8.27"x36 with optional Banner Tray. Supports Microsoft Windows Server 2003, XP, XP x64, 2000, Me, 98, 95, NT 4, Terminal Services; Citrix MetaFrame; UNIX; Linux; Apple Mac; Novell. Options include: 500-sheet paper drawer (\$372), 500-sheet paper tray (\$108), 2,000-sheet paper feeder (\$1,332), envelope drawer (\$425), output expander (\$241), 5-Bin Mailbox (\$469), Banner Tray (\$532), StapleSmart Finisher (\$804), IPDS and SCS/TNE card (\$959), Bar Code Card (\$383), 128/256/512 MB Memory DIMM (\$927/\$1,327/\$1,599), 32/64 MB Flash Memory (\$231/\$439), 10/100BaseTX Ethernet (1 USB port; \$265), 1000BaseTX Ethernet (4 USB ports; \$ 372), 10/100BaseTX Ethernet (1 parallel port; \$265), 802.11g Wireless to USB (\$159). 	<p>Wirth Consulting has determined that this device does not have any notable limitations and should provide good functionality.</p>
Notes	Notes
<ul style="list-style-type: none"> Other consumables include Fuser (yields 120,000 pages), ITU maintenance kit (yields 120,000 pages) and toner waste bottle (yields 200,000 pages). 	<ul style="list-style-type: none"> Maintenance Kit includes transfer belt. Drum refers to Photoconductor, which is good for all four colors. A waste toner container is good for 25,000 pages and lists at \$8.

Best Use

Small/mid-size businesses and workgroups that require a B/W and color MFP for higher volumes of general A4 office applications that consist of B/W as well as color output. MarkVision provides good network management for enterprise use, especially when other InfoPrint/Lexmark products are already installed on the network.

Wirth Consulting - Office ©Head2Head Comparison

Make InfoPrint	Imaging Laser
Model Color 1846 MFP	Functions Print/Copy/Scan/Fax
Base Price \$1,778.00	 
Max Mo. Duty Cycle (pages) 85,000	
BW/Color Print Speed (ppm) 30/30	
Max Media Width (inches) 8.50	
Classification Office 30+ PPM A4 Color MFPs	

Product Overview

This A4 MFP notably features color capability in all modes--print, copy, scan and fax. Other features of note include optional wireless connectivity, and standard USB convenience port for scan to and print from USB memory drives. This MFP also provides broad operating system support, including UNIX, Linux, Microsoft Windows, and Apple Mac. The Color 1846 MFP is the Color 1800 MFP series' entry-level model; hard drive is optional, and it does not accept XL higher-yield toner cartridges. Worth Consideration for budget-constrained small/mid-size businesses and workgroups that require a B/W and color MFP for moderate volumes of general, short-run A4 office applications that consist of primarily of black-only output because of higher color cost per page (12.6 cents).



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
27.5	\$0.02254	\$0.12604

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$3,143.00	\$9,204.50	\$5,111.87
2,000 pages per month	\$4,483.00	\$16,903.00	\$8,536.77
3,000 pages per month	\$5,835.50	\$24,465.50	\$11,925.05
4,000 pages per month	\$7,188.00	\$32,028.00	\$15,313.32
5,000 pages per month	\$8,540.50	\$39,590.50	\$18,701.60

*Base Price

Strengths	Limitations
<ul style="list-style-type: none"> Color Saver Tool software for restricting color printing. Standard 10Base/100BaseTX Ethernet; optional 1000Base-TX, 10/100BaseTX, 1000BaseTX, wireless 802.11 g. Scan to e-mail, FTP, network, USB connected computer, Windows network folder (requires installation of embedded scan to folder application). Scan to and print from USB memory drives. This USB port is also PictBridge compatible for printing from PictBridge-compatible digital cameras. Supports Citrix MetaFrame, UNIX, Linux; IBM AIX Colon Files, as well as Microsoft Windows and Apple Macintosh (virtually any TCP/IP platform). Supports PostScript emulation, PLC 6, XPS, PPDS Migration Tool, PDF v1.6 emulation, Direct Image, HTML. Application solutions include Decryption Card, Bar Code Card and IPDS. Options include: 550-sheet paper drawer (\$319), 550-sheet special media drawer (\$383), 2,000-sheet paper feeder (\$639), Bar Code Card (\$383), IPDS & SCS/TNE Card (\$959), Base for Paper Drawers (\$372), 10/100 BaseTX Ethernet (1 USB port; \$265), 1000BaseTX Ethernet (4 USB ports (\$372), 256/512/1,024 MB SDRAM (\$639/\$767/\$917), 80-GB hard drive (\$501), parallel interface card (\$84), RS-232C serial interface card (\$84), Decryption Card (\$232), 256 MB User Flash Memory (\$692), Ethernet 1000BaseTX(\$159), 802.11b/g.nWireless Print Server (\$479), 802.11g Wireless to USB (\$159). 	<ul style="list-style-type: none"> High color cost per page at 12.6 cents. No document finishing available.
Notes	Notes
<ul style="list-style-type: none"> Other consumables include Fuser (yields 120,000 pages), ITU maintenance kit (yields 120,000 pages) and toner waste bottle (yields 200,000 pages). 	<ul style="list-style-type: none"> Maintenance Kit includes transfer belt. Drum refers to Photoconductor, which is good for all four colors. A waste toner container is good for 25,000 pages and lists at \$8.

Best Use

Worth Consideration for budget-constrained small/mid-size businesses and workgroups that require a B/W and color MFP for moderate volumes of general, short-run A4 office applications that consist of primarily of black-only output because of higher color cost per page (12.6 cents). MarkVision provides good network management for enterprise use, especially when other InfoPrint/Lexmark products are already installed on the network. Standard hard drive, higher-yield toner cartridges, and faster rated print speeds make the Color 1856 and 1866 MFPs more appropriate for higher volumes.

Wirth Consulting - Office ©Head2Head Comparison

Make InfoPrint	Imaging Laser
Model Color 1856/1866 MFP	Functions Print/Copy/Scan/Fax
Base Price \$2,224.00	 
Max Mo. Duty Cycle (pages) 85,000	
BW/Color Print Speed (ppm) 35/35	
Max Media Width (inches) 8.50	
Classification Office 30+ PPM A4 Color MFPs	

Product Overview

InfoPrint's Color 1856 MFP is similar to the Color 1846 MFP, but is rated faster at 35/35 ppm versus 30/30 ppm. It also features color capability for all functions--print, copy, scan and fax. The Color 1866 MFP is the same as the Color 1856 MFP except that an 80-GB hard drive is standard, and it's thus priced slightly higher at \$2,470. The Color 1856 MFP also provides scan-preview (preview scanned images on touch screen) and MyMFP (save preferred touch-screen settings, e-mail and fax destinations on a USB memory drive). Capable performance, good manageability, media-expansion options, and high toner capacity make this system Worth Consideration for moderate volumes of primarily B/W printing.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
29.0	\$0.02171	\$0.11831

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$3,539.00	\$9,186.50	\$5,367.29
2,000 pages per month	\$4,829.00	\$16,421.00	\$8,606.07
3,000 pages per month	\$6,131.50	\$23,519.50	\$11,808.23
4,000 pages per month	\$7,434.00	\$30,618.00	\$15,010.38
5,000 pages per month	\$8,736.50	\$37,716.50	\$18,212.54

*Base Price

Strengths	Limitations
<ul style="list-style-type: none"> •Color Saver Tool software for restricting color printing. •Standard 10Base/100BaseTX Ethernet network interface; optional Ethernet 1000BaseTX, Wireless Print Server, Wireless 802.11 g (1 USB port), 10Base/100BaseTX Ethernet (1 USB Port), 1000BaseTX Ethernet (4 USB ports). •Scan to and print from USB memory drives. This USB port is also PictBridge compatible for printing from PictBridge-compatible digital cameras. •Supports Citrix MetaFrame, UNIX, Linux, IBM AIX Colon Files, as well as Microsoft Windows and Apple Mac (virtually any TCP/IP platform). •Options include: 550-sheet paper drawer (\$319), 550-sheet special media drawer (\$383), 2,000-sheet paper feeder (\$639), Bar Code Card (\$383), IPDS & SCS/TNE Card (\$959), base for optional paper drawers (\$372), 10/100 BaseTX Ethernet (1 USB port; \$265), 1000BaseTX Ethernet (4 USB ports; \$372), 256/512/1,204 MB SDRAM (\$639/\$767/\$917), 80-GB hard drive (\$501), Parallel 1284-B Interface Card (\$84), Serial Interface Card (\$84), Encryption Card (\$232), 256 MB User Flash Memory (\$692), 1000BaseTX Ethernet (\$159), 802.11b/g.n Wireless Print Server (\$479), Wireless to USB (\$159). 	<ul style="list-style-type: none"> •High color cost per page at 11.8 cents. •No document finishing available.

Notes
<ul style="list-style-type: none"> •Maintenance Kit includes transfer belt. •Drum refers to Photoconductor, which is good for all four colors. A waste toner container is good for 25,000 pages and lists at \$8.99.

Best Use

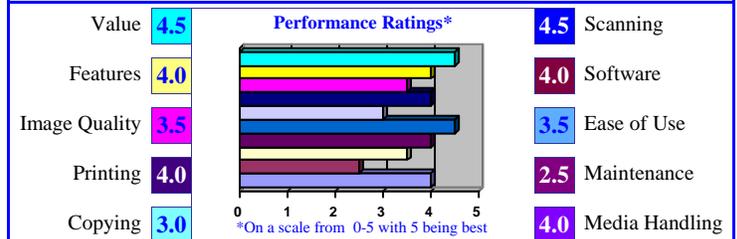
Small/mid-size businesses and workgroups, and enterprises, that require a B/W and color MFP for moderate volumes of general A4 office applications that consist of primarily B/W printing, with less color printing because of 11.8 cents color cost per page. MarkVision provides good network management for enterprise use, and My MFP provides especially easy operation, especially when other InfoPrint/Lexmark products are already installed on the network.

Wirth Consulting - Office ©Head2Head Comparison

Make Konica Minolta	Imaging Laser
Model bizhub C35	Functions Print/Copy/Scan/Fax
Base Price \$3,499.00	 
Max Mo. Duty Cycle (pages) 120,000	
BW/Color Print Speed (ppm) 31/31	
Max Media Width (inches) 8.50	
Classification Office 30+ PPM A4 Color MFPs	

Product Overview

Introduced in July 2010, the bizhub C35 is fully featured with network print, copy and network scan (all in color), as well as Super Group 3 walkup fax, PC fax and Internet fax. The bizhub C35 is also based on Konica Minolta's Emperon Print System, which Wirth Consulting has found productive and capable of very good image quality. It's essentially equipped with all of the features provided by Konica Minolta's A3 office MFPs, but at a lower price, including the firm's BEST open-development platform; bizhub SEND; very extensive security suite; PageScope Suite; and 1000BaseT Ethernet network interface for fast transfer of data. Black and color cost per page is low, and TCO is also among the lowest in this group. These capabilities and advantages make the bizhub C35 Best In Class.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
37.5	\$0.01365	\$0.10839

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$4,318.30	\$10,002.65	\$6,150.95
2,000 pages per month	\$5,137.59	\$16,506.29	\$8,837.89
3,000 pages per month	\$5,956.89	\$23,009.94	\$11,524.83
4,000 pages per month	\$6,776.19	\$29,513.58	\$14,211.77
5,000 pages per month	\$7,595.49	\$36,017.23	\$16,898.71

*Base Price

Strengths	Limitations
<ul style="list-style-type: none"> •Low black and color cost per page at 1.3 and 10.8 cents respectively. Total Cost of Ownership is among the lowest in this Head2Head Comparison Report. •Incorporates bEST (bizhub Extended Solution Technology) open-development platform for integrating network applications that can be accessed at the touch screen. •Color scan to e-mail (supports LDAP), FTP, SMB, and hard drive. Network TWAIN scanning and scan-to-WebDAV. Convert into TIFF, PDF, Compact PDF, Encrypted PDF, JPEG, XPS. With bizhub Send, send to multiple e-mail, SMB, and FTP sites in a single operation. Internet fax supported. •Standard 10Base-T/100Base-TX/1000Base-T Ethernet network interfaces. •Security includes network user authentication, hard-drive overwrite and encryption, IPSec, IP filtering, IPP over SSL, etc. In evaluation for ISO 15408 EAL 3 security certification. •PCL 6 and PostScript 3 print driver, Native XPS, and KM Universal Print Driver for easier print-driver deployment, management and printing. •Feed 110 lb. index stock through 100-sheet bypass tray and standard 250-sheet paper drawer. Duplex on up to 110 lb. index stock. •Print from and scan to USB memory drives. •PageScope Suite, including Data Administrator, PageScope Direct Print, PageScope Download Manager, PageScope EMS Plug-ins, PageScope Net Care Device Manager, PageScope Web Connection, Print Status Notifier, bizhub vCare, PageScope Account Manager, PageScope Authentication Manager. Optional PageScope Enterprise Suite. 	<ul style="list-style-type: none"> •No document finishing available.

Notes
<ul style="list-style-type: none"> •1,200 watts power consumption is maximum power consumption. •Options include: Copy Desk (\$279), 500-sheet paper drawer (\$299), HID Authentication Unit, Working Table.

Best Use

Mid to high print volumes in small to mid-size businesses/workgroups, and enterprises, that require a versatile and easy-to-use A4 color MFP, but don't require document finishing. It will be particularly useful for users with higher-volume scanning tasks, as scanned documents can be sent to multiple destinations in a single operation. And, with bEST open-development platform, the bizhub C35 is very suitable for integration with advanced workflow and management solutions. Low CPP and TCO makes it a great choice for any mix of black and color print volumes.

Wirth Consulting - Office ©Head2Head Comparison

Make Lexmark	Imaging Laser
Model X734de	Functions Print/Copy/Scan/Fax
Base Price	\$1,799.00
Max Mo. Duty Cycle (pages)	85,000
BW/Color Print Speed (ppm)	30/30
Max Media Width (inches)	8.50
Classification Office 30+ PPM A4 Color MFPs	



Product Overview

The X734de is an A4 MFP that notably features color capability in all modes--print, copy, scan and fax. Other features of note include optional wireless connectivity. The X736de is virtually the same as the X734de, but is rated at a faster print speed (35/35 ppm versus 30/30 ppm), and is priced higher (\$2,249 versus \$1,799). Lexmark's Embedded Solutions Framework provides integration of advanced workflow solutions at the touch screen. The system also provides broad operating system support, including support for UNIX, Linux, Microsoft Windows and Apple Mac. Capable performance, good manageability, media-expansion options, and high toner capacity make this system Worth Consideration for moderate volumes of primarily B/W printing.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
28.5	\$0.02309	\$0.12908

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$3,196.90	\$9,408.10	\$5,214.62
2,000 pages per month	\$4,569.79	\$17,289.19	\$8,721.49
3,000 pages per month	\$5,955.19	\$25,034.29	\$12,191.74
4,000 pages per month	\$7,340.58	\$32,779.38	\$15,661.98
5,000 pages per month	\$8,725.98	\$40,524.48	\$19,132.22

*Base Price

- #### Strengths
- Incorporates Lexmark's Embedded Solutions Framework (ESF) for incorporating custom applications accessible at the touch screen.
 - Supports Microsoft Windows Server 2003, XP, XP x64, 2000, Me, 98, 95, NT 4, Terminal Services; Citrix MetaFrame; UNIX; Linux; Apple Mac; Novell.
 - Scan to and print from USB memory drives. This USB port is also PictBridge compatible for printing from PictBridge-compatible digital cameras.
 - Standard 10/100BaseTX Ethernet (RJ-45), also works with 1000BaseT Ethernet; optional 802.11g Wireless Print Server (print only), external MarkNet N7020e Gigabit Ethernet, internal MarkNet N8120 Gigabit Ethernet, internal MarkNet N8130 Fiber Fast Ethernet, internal MarkNet N8150 802.11b/g/n Wireless.
 - Supports PCL 5c, PCL 6, Personal Printer Data Stream (PPDS), PostScript 3 emulation, xHTML, PDF 1.6, Direct Image, Microsoft XPS (XML Paper Specification).
 - Security includes network authentication, hard-drive erasing, SNMPv3, 802.1x authentication, IPsec; optional PrintCryption card.
 - Options include: 2,000-sheet paper feeder (\$599), 550-sheet paper drawer (\$299), 550-sheet specialty media paper drawer (\$359), 256 MB flash card, 512/256/1024 MB DRAM, Card for IPDS/SCS/TNE, PrintCryption card, 80-GB hard drive (\$479), Forms and Bar Code card, Japanese/Korean/Traditional Chinese font cards.

- #### Limitations
- High color cost per page at 12 cents.
 - No document finishing available.

- #### Notes
- Drum refers to photoconductor, which is good for all four colors. A waste toner container is good for 25,000 pages and lists at \$8.99.
 - Maintenance Kit includes transfer belt.

Best Use

Small/mid-size businesses and workgroups that require a B/W and color MFP for moderate volumes of general, short-run A4 office applications that consist of primarily of B/W printing, with less color printing because of 12.9 cents color cost per page. MarkVision provides good network management for enterprise use, especially when other InfoPrint/Lexmark products are already installed on the network, while the open-development platform provides for advanced workflow and management.

Wirth Consulting - Office ©Head2Head Comparison

Make Lexmark	Imaging Laser
Model X738de/X736de	Functions Print/Copy/Scan/Fax
Base Price	\$2,499.00
Max Mo. Duty Cycle (pages)	100,000
BW/Color Print Speed (ppm)	35/35
Max Media Width (inches)	8.50
Classification Office 30+ PPM A4 Color MFPs	



Product Overview

The X738de is virtually the same as the X736de, but the X736de lacks a standard hard drive and is priced lower at \$2,200. As with many Lexmark systems, there's support for legacy systems, as well as support for Microsoft Windows, Apple Mac and Linux. With MyMFP, save your preferred settings, e-mail and fax destinations on a USB memory drive, and then insert into the USB convenience port; these preferred settings and destinations are then available on the touch screen. Capable performance, good manageability, media-expansion options, and high toner capacity make this system Worth Consideration for moderate volumes of primarily B/W printing.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
28.5	\$0.02209	\$0.12079

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$3,836.97	\$9,610.47	\$5,703.86
2,000 pages per month	\$5,149.94	\$16,993.94	\$9,006.96
3,000 pages per month	\$6,475.41	\$24,241.41	\$12,273.44
4,000 pages per month	\$7,800.88	\$31,488.88	\$15,539.91
5,000 pages per month	\$9,126.35	\$38,736.35	\$18,806.39

*Base Price

- #### Strengths
- Incorporates Lexmark's Embedded Solutions Framework (ESF) for incorporating custom applications accessible at the touch screen.
 - Supports Microsoft Windows Server 2003, XP, XP x64, 2000, Me, 98, 95, NT 4, Terminal Services; Citrix MetaFrame; UNIX; Linux; Apple Mac; Novell.
 - Scan to and print from USB memory drives. This USB port is also PictBridge compatible for printing from PictBridge-compatible digital cameras.
 - Standard Ethernet 10/100BaseTX (RJ-45), also works with 1000BaseT; optional 802.11g Wireless Print Server (Print Only), external MarkNet N7020e Gigabit Ethernet, internal MarkNet N8120 Gigabit Ethernet, internal MarkNet N8130 Fiber Fast Ethernet, internal MarkNet N8150 802.11b/g/n Wireless.
 - With MyMFP, save your preferred settings, e-mail and fax destinations on a USB memory device, and then insert into the USB convenience port; these preferred settings and destinations are then available on the touch screen.
 - Supports PCL 5c, PCL 6, Personal Printer Data Stream (PPDS), PostScript 3 emulation, xHTML, PDF 1.6, Direct Image, Microsoft XPS (XML Paper Specification).
 - Options include: 2,000-sheet paper feeder (\$599), 550-sheet paper drawer (\$299), 550-sheet specialty media drawer (\$359), caster base, swivel cabinet, 256 MB flash card, 512/256/1024 MB DRAM, Card for IPDS/SCS/TNE, PrintCryption card, 80-GB hard drive (\$479), Forms and Bar Code card, Japanese/Korean/Traditional Chinese font cards.

- #### Limitations
- High color cost per page at 12.1 cents.
 - No document finishing available.

- #### Notes
- Drum refers to photoconductor, which is good for all four colors. A waste toner container is good for 25,000 pages and lists at \$8.99.
 - Maintenance Kit includes transfer belt.

Best Use

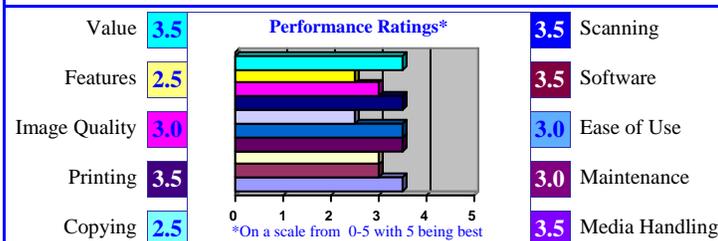
Small/mid-size businesses and workgroups, and enterprises, that require a B/W and color MFP for moderate volumes of general A4 office applications that consist primarily of B/W printing, with less color printing because of 12.1 cents color cost per page. MarkVision provides good network management for enterprise use, especially when other Lexmark/InfoPrint products are already installed on the network, while MyMFP provides especially easy operation. Embedded Solutions Framework pen-development platform provides for advanced workflow and management at the touch screen.

Wirth Consulting - Office ©Head2Head Comparison

Make Lexmark	Imaging Laser
Model X782E XL	Functions Print/Copy/Scan/Fax
Base Price \$4,499.00	 
Max Mo. Duty Cycle (pages) 150,000	
BW/Color Print Speed (ppm) 40/35	
Max Media Width (inches) 8.50	
Classification Office 30+ PPM A4 Color MFPs	

Product Overview

Lexmark's X782E XL is driven by an 800 MHz CPU, has 768 MB standard memory, and is rated at up to 40 (B/W)/35 (color) ppm. It features Pantone color matching as well as the optional ability to print on banner sheets up to 8.27"x36", making it suitable for color-proofing and color-graphics applications, as well as B/W and color office applications. It also features Lexmark's Embedded Solutions Framework for creating custom applications, for instance, for automating scan and distribute. Capable performance, low TCO and CPP, good manageability, media-expansion options, and high toner capacity make this system Well Worth Consideration for moderate to high print volumes.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
37.0	\$0.01564	\$0.05182

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$5,218.96	\$7,389.76	\$5,883.13
2,000 pages per month	\$5,938.92	\$10,280.52	\$7,312.26
3,000 pages per month	\$6,658.88	\$13,171.28	\$8,741.38
4,000 pages per month	\$8,252.82	\$16,936.02	\$11,035.75
5,000 pages per month	\$9,191.28	\$20,045.28	\$12,681.18

*Base Price

Strengths	Limitations
<ul style="list-style-type: none"> •Low black and very low color consumables' cost per page of 1.5 and 5.2 cents respectively. •Print on banner sheets up to 8.27" x 36" via optional banner media tray (other paper sources support up to 8.5"x14"). •Optional StapleSmart Finisher for sorting and stapling, and 5-bin mailbox for separating jobs. •Pantone color-matching. •Preview scanned images on touch screen. •10/100Base-TX Ethernet network interface; optional Gigabit Ethernet network interface and wireless print server. •Supports IBM AS/400 printing, as well as Microsoft Windows, Apple Macintosh and Linux. •Capable MarkVision for managing system on the network. •Scan to and print from USB memory drives. •Security includes SSL Web server, SNMPv3, TCP/IP port-access control, secure printing, 802.1x authentication, etc. •Lexmark Embedded Solutions Framework open-development platform for incorporating custom applications accessible at the touch screen. •Single-pass duplexing automatic document feeder (scan originals in a single pass). •Supports PCL 5c, PCL 6, Personal Printer Data Stream (PPDS), PostScript 3, PDF 1.5, xHTML, Direct Image. •Options include: Forms/PREScribe/IPDS/Bar Code Card (\$369.99)/\$209.99/\$999.99/\$399.00); Banner Media Tray (SNA); 650-sheet output tray (SNA); Japanese/Korean/Simplified Chinese/Traditional Chinese font cards (SNA); 500-sheet paper drawer; 32/64 MB flash cards 	<p>Wirth Consulting has determined that this device does not have any notable limitations and should provide good functionality.</p>
Notes	Notes

Best Use

Small/mid-size businesses and workgroups, and enterprises, that require a B/W and color MFP for higher volumes of general A4 office applications that consist of B/W as well as color printing. MarkVision provides good network management for enterprise use, especially when other Lexmark products are already installed on the network. Pantone color-matching, as well as optional printing on up to 8.27"x36" media, also make the system suitable for in-house color proofing applications. Embedded Solutions Framework open-development platform provides for advanced workflow and management at the touch screen.

Wirth Consulting - Office ©Head2Head Comparison

Make OKI DATA	Imaging Laser
Model CX2033 MFP Plus	Functions Print/Copy/Scan/Fax
Base Price \$1,995.00	 
Max Mo. Duty Cycle (pages) 60,000	
BW/Color Print Speed (ppm) 32/20	
Max Media Width (inches) 8.50	
Classification Office 30+ PPM A4 Color MFPs	

Product Overview

OKI Printing Solutions introduced the CX2033 MFP Plus in March 2009. Note that while maximum paper size is 8.5" x 14" via the paper drawers, the system can print on banner sheets up to 8.5" wide x 48" long via the bypass tray (as well as on up to 110 lb. index stock, also via the bypass tray). Note that automatic duplex printing and hard drive are optional, with approximate online Web pricing of \$249 and \$399.99 respectively. Lack of touch screen (LCD display and hard keys instead) means operation will be less easy versus touch-screen equipped systems. Color cost per page is among the highest in this group, but acquisition price is among the lowest. Consequently, it's Worth Consideration for primarily budget-constrained users with primarily low volumes of predominantly B/W prints.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
25.0	\$0.02397	\$0.13132

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$3,433.49	\$9,874.49	\$5,524.69
2,000 pages per month	\$4,871.98	\$17,753.98	\$9,074.32
3,000 pages per month	\$6,310.47	\$25,633.47	\$12,623.96
4,000 pages per month	\$7,748.96	\$33,512.96	\$16,173.59
5,000 pages per month	\$9,187.45	\$41,392.45	\$19,723.23

*Base Price

Strengths	Limitations
<ul style="list-style-type: none"> •Scan to PC, network folders, FTP, e-mail (supports LDAP, and identification of users by name). Nuance PaperPort 11.2 software document-management and for converting scanned files into PDFs, JPEGs; OCR software also provided, as well as TWAIN and WIA scan drivers •10/100Base-T Ethernet network interface. •Print on 8.5" wide x 48" long banner sheets via bypass, as well as on up to 110 lb. index via manual feed. •Capable PrintSuperVision for managing and monitoring the device on the network, including third-party devices. Job-accounting software and Network Setup Tool. •Restrict color printing (set usage rules) with Color Access Policy Manager software. •Color Correct and Color Swatch color-matching and correction software. •Security provisions include SNMPv1, user authentication, 802.1x wired authentication with 128-bit encryption; optional hard drive provides 256-bit encryption of files; MAC validation; hard-drive erase. •Options include: automatic duplex printing (\$249), 530-sheet paper drawer (\$349), 40-GB hard (\$399.99), 512 MB of memory (\$299.99), storage cabinet (\$399.99). These prices are estimated street pricing obtained via Web retailers. 	<ul style="list-style-type: none"> •No touch screen (LCD display instead). •High color cost per page at 13.1 cents. •No document finishing available.
Notes	Notes

Best Use

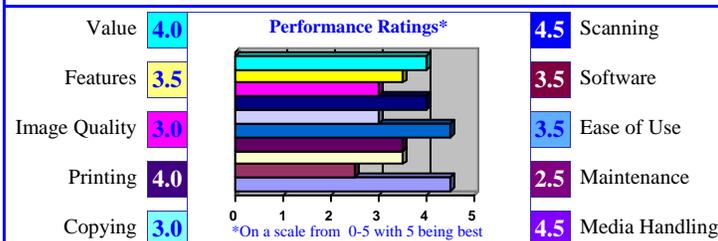
Small to mid-size workgroups and businesses, as well as some enterprises, that require a color A4 MFP for lower, predominantly black print volumes because of 13.0 cents color cost per page. PostScript print driver, and color-matching and correction software, as well as the ability to print on banner sheets and on up to 110 lb. index stock, also make it more suitable for others in this group for color graphics and proofing applications. Lack of touch screen (LCD display and hard keys instead) means operation will be less easy versus touch-screen equipped systems.

Wirth Consulting - Office ©Head2Head Comparison

Make Sharp	Imaging Laser
Model DX-C311	Functions Print/Copy/Scan/Fax
Base Price \$7,095.00	 
Max Mo. Duty Cycle (pages) 150,000	
BW/Color Print Speed (ppm) 31/31	
Max Media Width (inches) 8.50	
Classification Office 30+ PPM A4 Color MFPs	

Product Overview

As part of Sharp's Frontier DX Series, this A4 color MFP is powered by a robust 800 MHz CPU, features a Gigabit Ethernet network interface for fast transmission of data, and is rated at up to 31/31 ppm. Scanned images can be previewed on the 8.5" color touch screen, and with color network scanning, users can scan and send to a mixed group of destinations (USB, network folder, e-mail, etc.) in a single procedure. Of note is a very extensive security suite, available document finisher, and low cost per page for both black and color. Very suitable for integration with advanced solutions via Sharp's open-development platform. These capabilities and advantages make the system Well Worth Consideration.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
36.0	\$0.01400	\$0.07510

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$7,825.33	\$12,948.67	\$9,437.78
2,000 pages per month	\$8,775.33	\$16,107.33	\$11,107.14
3,000 pages per month	\$9,615.50	\$20,613.50	\$13,148.69
4,000 pages per month	\$10,455.67	\$25,119.67	\$15,190.23
5,000 pages per month	\$11,295.83	\$29,625.83	\$17,231.77

*Base Price

Strengths	Limitations
<ul style="list-style-type: none"> •Low black and color cost per page of 1.4 and 7.5 cents respectively (based on SRP pricing). •Security provisions include IP/MAC filtering, protocol filtering, port management, user authentication, e-mail server user authentication for LDAP and Active Directory. •Network management solution for managing the system on the network. •Preview scanned images on touch screen. •PCL 6/5c, PostScript 3 print drivers, optional XPS driver. •ImageSEND enables users to scan and send to a mixed group of destinations in a single procedure. •Send-to-Group function allows users to send a mixed group broadcast to e-mail, fax, and Internet fax in a single procedure. •Scan to and print from USB memory drives; USB port can also be used for attaching wireless keyboards so that data can be entered more easily. •Options include: fax (\$625), Inner Finisher for stapling, sorting, stacking; and data security kit that encrypts data using AES, and erases temporary memory on hard drive by overwriting the encrypted data up to seven times. •Sharpdesk document-management software (1 user license). •Standard 80-GB hard drive for collation, secure print, etc. •Sharp OSA open platform development for access to network applications, such as Enterprise Resource Planning software, workflow applications, etc., from the touch screen/control panel. 	<p>Wirth Consulting has determined that this device does not have any notable limitations and should provide good functionality.</p>
Notes	Notes
<ul style="list-style-type: none"> •All pricing (including device, options and consumables) is Suggested Retail Pricing (SRP). Expect discounted pricing from dealers. •In the "Consumables Pricing and Yields" chart, "Maintenance Kit" refers to the fusing unit. 	<ul style="list-style-type: none"> •All pricing (including device, options and consumables) is Suggested Retail Pricing (SRP). Expect discounted pricing from dealers. •In the "Consumables Pricing and Yields" chart, "Maintenance Kit" refers to the fusing unit.

Best Use

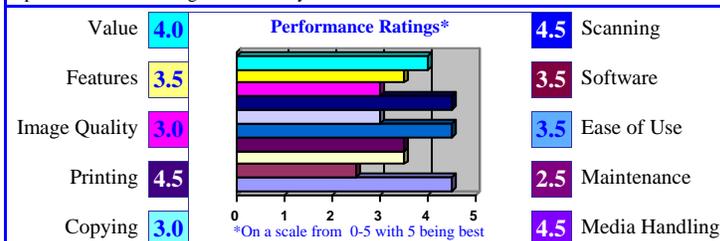
Mid- to high-range print volumes in small/mid-size businesses/workgroups, and enterprises, that require a versatile, easy-to-use A4 color MFP, and for higher-volume scanning tasks, as scanned documents can be sent to multiple destinations in a single operation, and custom scanning applications can be created with Sharp's OSA. Most economic at higher monthly print volumes as TCO, which includes depreciated purchase price, will be lower. Very suitable for integration with advanced workflow and management solutions and document finishing. Low CPP and TCO makes it a great choice for any mix of black and color print volumes.

Wirth Consulting - Office ©Head2Head Comparison

Make Sharp	Imaging Laser
Model DX-C401	Functions Print/Copy/Scan/Fax
Base Price \$7,995.00	 
Max Mo. Duty Cycle (pages) 150,000	
BW/Color Print Speed (ppm) 40/40	
Max Media Width (inches) 8.50	
Classification Office 30+ PPM A4 Color MFPs	

Product Overview

Along with a 31/31-ppm A4 color MFP, this 40/40-ppm color MFP is part of Sharp's Frontier Series of A4 color MFPs. It features a 1 GHz CPU (versus 800 GHz), and is rated at a faster 40/40 ppm, making it suitable for higher-volume use in mid-size workgroups, businesses, and enterprises. Its 8.5" color touch screen can be used to preview scanned images. With color network scanning, users can scan and send to a mixed group of destinations (USB, network folder, e-mail, etc.) in a single procedure. Of note is a very extensive security suite, available document finisher, and low cost per page for both black and color. Very suitable for integration with advanced solutions via Sharp's open-development platform. These capabilities and advantages make the system Well Worth Consideration.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
36.5	\$0.01400	\$0.07000

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$8,725.33	\$13,236.67	\$10,126.82
2,000 pages per month	\$9,675.33	\$16,395.33	\$11,796.18
3,000 pages per month	\$10,515.50	\$20,595.50	\$13,736.75
4,000 pages per month	\$11,355.67	\$24,795.67	\$15,677.31
5,000 pages per month	\$12,195.83	\$28,995.83	\$17,617.87

*Base Price

Strengths	Limitations
<ul style="list-style-type: none"> •Low black and color cost per page of 1.4 and 7.0 cents respectively (based on SRP pricing). •Security provisions include IP/MAC filtering, protocol filtering, port management, user authentication, e-mail server user authentication for LDAP and Active Directory. •Network management solution for managing the system on the network. •Preview scanned images on touch screen. •PCL 6/5c, PostScript 3 print drivers, optional XPS driver. •ImageSEND enables users to scan and send to a mixed group of destinations in a single procedure. •Send-to-Group function allows users to send a mixed group broadcast to e-mail, fax, and Internet fax in a single procedure. •Scan to and print from USB memory drives; USB port can also be used for attaching wireless keyboards so that data can be entered more easily. •Options include: fax (\$625), Inner Finisher for stapling, sorting, stacking; and data security kit that encrypts data using AES, and erases temporary memory on hard drive by overwriting the encrypted data up to seven times. •Sharpdesk document-management software (1 user license). •Standard 80-GB hard drive for collation, secure print, etc. •Sharp OSA open platform development for access to network applications, such as Enterprise Resource Planning software, workflow applications, etc., from the touch screen/control panel. 	<p>Wirth Consulting has determined that this device does not have any notable limitations and should provide good functionality.</p>
Notes	Notes
<ul style="list-style-type: none"> •All pricing (including device, options and consumables) is Suggested Retail Pricing (SRP). Expect discounted pricing from dealers. •In the "Consumables Pricing and Yields" chart, "Maintenance Kit" refers to the fusing unit. 	<ul style="list-style-type: none"> •All pricing (including device, options and consumables) is Suggested Retail Pricing (SRP). Expect discounted pricing from dealers. •In the "Consumables Pricing and Yields" chart, "Maintenance Kit" refers to the fusing unit.

Best Use

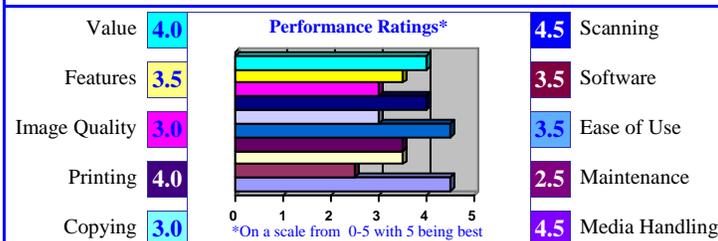
Mid- to high-range print volumes in small/mid-size businesses/workgroups, and enterprises, that require a versatile, easy-to-use A4 color MFP, and for higher-volume scanning tasks, as scanned documents can be sent to multiple destinations in a single operation, and custom scanning applications can be created with Sharp's OSA. Most economic at higher monthly print volumes as TCO, which includes depreciated purchase price, will be lower. Very suitable for integration with advanced workflow and management solutions and document finishing. Low CPP and TCO makes it a great choice for any mix of black and color print volumes.

Wirth Consulting - Office ©Head2Head Comparison

Make	Sharp	Imaging	Laser
Model	MX-C311	Functions	Print/Copy/Scan/Fax
Base Price	\$7,095.00	 	
Max Mo. Duty Cycle (pages)	150,000		
BW/Color Print Speed (ppm)	31/31		
Max Media Width (inches)	8.50		
Classification	Office 30+ PPM A4 Color MFPs		

Product Overview

This A4 color MFP is powered by a robust 800 MHz CPU, features a Gigabit Ethernet network interface for fast transmission of data, and is rated at up to 31/31 ppm. Color network scanning includes an ImageSEND function, which enables users to scan and send to a mixed group of destinations in a single procedure. Its 8.5" color touch screen can be used to preview scanned images. Of note is a very extensive security suite, available document finisher, and low cost per page for both black and color. Very suitable for integration with advanced solutions via Sharp's open-development platform. These capabilities and advantages make the system Well Worth Consideration.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
36.0	\$0.01400	\$0.07510

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$7,825.33	\$12,948.67	\$9,437.78
2,000 pages per month	\$8,775.33	\$16,107.33	\$11,107.14
3,000 pages per month	\$9,615.50	\$20,613.50	\$13,148.69
4,000 pages per month	\$10,455.67	\$25,119.67	\$15,190.23
5,000 pages per month	\$11,295.83	\$29,625.83	\$17,231.77

*Base Price

Strengths

- Low black and color consumables' cost per page of 1.4 and 7.5 cents respectively (based on SRP pricing).
- Security provisions include IP/MAC filtering, protocol filtering, port management, user authentication, e-mail server user authentication for LDAP and Active Directory.
- Network management solution for managing the system on the network.
- Preview scanned images on touch screen.
- PCL 6/5c, PostScript 3 print drivers, optional XPS driver.
- ImageSEND enables users to scan and send to a mixed group of destinations in a single procedure.
- Send-to-Group function allows users to send a mixed group broadcast to e-mail, fax, and Internet fax in a single procedure.
- Scan to and print from USB memory drives; USB port can also be used for attaching wireless keyboards so that data can be entered more easily.
- Options include: Inner Finisher for stapling, sorting, stacking; and data security kit that encrypts data using AES, and erases temporary memory on hard drive by overwriting the encrypted data up to seven times.
- Sharpdesk document-management software (1 user license).
- Standard 80-GB hard drive for collation, secure print, etc.
- Sharp OSA open platform development for access to network applications, such as Enterprise Resource Planning software, workflow applications, etc., from the touch screen/control panel.

Limitations

Wirth Consulting has determined that this device does not have any notable limitations and should provide good functionality.

Notes

- All pricing (including device, options and consumables) is Suggested Retail Pricing (SRP). Expect discounted pricing from dealers.
- In the "Consumables Pricing and Yields" chart, "Maintenance Kit" refers to the fusing unit.

Best Use

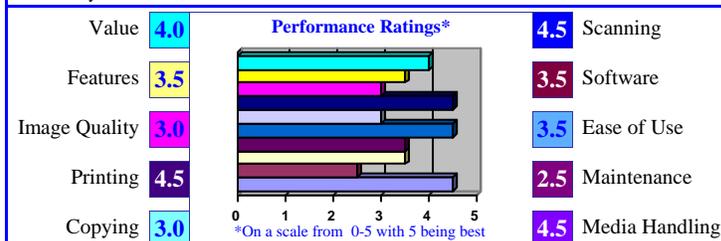
Mid- to high-range print volumes in small/mid-size businesses/workgroups, and enterprises, that require a versatile, easy-to-use A4 color MFP, and for higher-volume scanning tasks, as scanned documents can be sent to multiple destinations in a single operation, and custom scanning applications can be created with Sharp's OSA. Most economic at higher monthly print volumes as TCO, which includes depreciated purchase price, will be lower. Very suitable for integration with advanced workflow and management solutions and document finishing. Low CPP and TCO makes it a great choice for any mix of black and color print volumes.

Wirth Consulting - Office ©Head2Head Comparison

Make	Sharp	Imaging	Laser
Model	MX-C401	Functions	Print/Copy/Scan/Fax
Base Price	\$7,995.00	 	
Max Mo. Duty Cycle (pages)	150,000		
BW/Color Print Speed (ppm)	40/40		
Max Media Width (inches)	8.50		
Classification	Office 30+ PPM A4 Color MFPs		

Product Overview

Along with a 31/31-ppm A4 color MFP, this 40/40-ppm color MFP is part of Sharp's Frontier Series of A4 color MFPs. It features a 1 GHz CPU (versus 800 GHz), and is rated at a faster 40/40 ppm, making it suitable for higher-volume use in mid-size workgroups and businesses. Color network scanning includes an ImageSEND function, which enables users to scan and send to a mixed group of destinations in a single procedure. Its 8.5" color touch screen can be used to preview scanned images. Of note is a very extensive security suite, available document finisher, and low cost per page for both black and color. Very suitable for integration with advanced solutions via Sharp's open-development platform. These capabilities and advantages make the system Well Worth Consideration.



Total Ratings Score	Black Consumables Cost Per Page	Color Consumables Cost Per Page
36.5	\$0.01400	\$0.07000

Total Cost of Ownership*	Black	Color	Mixed
1,000 pages per month	\$8,725.33	\$13,236.67	\$10,126.82
2,000 pages per month	\$9,675.33	\$16,395.33	\$11,796.18
3,000 pages per month	\$10,515.50	\$20,595.50	\$13,736.75
4,000 pages per month	\$11,355.67	\$24,795.67	\$15,677.31
5,000 pages per month	\$12,195.83	\$28,995.83	\$17,617.87

*Base Price

Strengths

- Low black and color consumables' cost per page of 1.4 and 7.0 cents respectively (based on SRP pricing).
- Security provisions include IP/MAC filtering, protocol filtering, port management, user authentication, e-mail server user authentication for LDAP and Active Directory.
- Network management solution for managing the system on the network.
- Preview scanned images on touch screen.
- PCL 6/5c, PostScript 3 print drivers, optional XPS driver.
- ImageSEND enables users to scan and send to a mixed group of destinations in a single procedure.
- Send-to-Group function allows users to send a mixed group broadcast to E-mail, Fax, and Internet Fax in a single procedure.
- Scan to and print from USB memory drives; USB port can also be used for attaching wireless keyboards so that data can be entered more easily.
- Options include: Inner Finisher for stapling, sorting, stacking; and data security kit that encrypts data using AES, and erases temporary memory on hard drive by overwriting the encrypted data up to seven times.
- Sharpdesk document-management software (1 user license).
- Standard 80-GB hard drive for collation, secure print, etc.
- Sharp OSA open platform development for access to network applications, such as Enterprise Resource Planning software, workflow applications, etc., from the touch screen/control panel.

Limitations

Wirth Consulting has determined that this device does not have any notable limitations and should provide good functionality.

Notes

- All pricing (including device, options and consumables) is Suggested Retail Pricing (SRP). Expect discounted pricing from dealers.
- In the "Consumables Pricing and Yields" chart, "Maintenance Kit" refers to the fusing unit.

Best Use

Mid- to high-range print volumes in small/mid-size businesses/workgroups, and enterprises, that require a versatile, easy-to-use A4 color MFP, and for higher-volume scanning tasks, as scanned documents can be sent to multiple destinations in a single operation, and custom scanning applications can be created with Sharp's OSA. Most economic at higher monthly print volumes as TCO, which includes depreciated purchase price, will be lower. Very suitable for integration with advanced workflow and management solutions and document finishing. Low CPP and TCO makes it a great choice for any mix of black and color print volumes.