

Toshiba e-STUDIO5055c

50 PPM Colour Copier • Printer • Scanner • Fax



Reliability.....	Good
Multitasking.....	Good
Administrative Utilities	Very Good
Feedback to Workstations	Good
Ease of Network Setup.....	Good
Print Drivers.....	Very Good
Scan Functions	Good
Colour Print/Copy Quality	Good
Black Print/Copy Quality.....	Very Good
Colour Print/Copy Productivity	Good
Black Print/Copy Productivity	Good
Ease of Use.....	Very Good
Feature Set	Good
Security Features.....	Excellent
Accessibility Features	Not Rated
Environmental Features	Not Rated
Toner Yield.....	Very Good

BLI RECOMMENDATION

The Toshiba e-STUDIO5055c, a 50-ppm colour A3 MFP, performed well in BLI's tests and proved to be a reliable device. Although the e-STUDIO5055c experienced some misfeeding issues during the initial test period, Toshiba developed a modification to resolve the issue and the device completed an additional 112,500-impression test with four misfeeds (which appeared to be unrelated to the previous issue) and no service calls. The unit produced very good overall black image quality in both print and copy mode, with bold, fully formed text, dark solids and excellent halftone range. In addition to being very easy to install, the e-STUDIO5055c's print drivers are easy to use and offer time-saving conveniences, such as the ability to store one-touch job templates and frequently used settings. Moreover, Toshiba offers several optional e-BRIDGE print driver plug-ins that add advanced functionality to the already feature-rich print drivers. The unit offers other convenient features such as scan to USB, which includes preview, encryption and blank page removal; support for Apple Airprint; and graphical selection of paper trays and output source on the control panel. BLI recommends the e-STUDIO5055c for an average optimum monthly volume of 23,000 impressions.

Test duration: Two months, including a 337,500-impression durability test.

Manufacturer's maximum monthly duty cycle¹: 225,000 impressions.

Average optimum monthly volume for models in this speed range: 23,000 impressions².

¹ The manufacturer's maximum monthly duty cycle is the maximum volume, as specified by the vendor, that the unit is capable of producing in a month; however, it isn't recommended that the unit be run at this volume on a regular basis.

² Based on a survey conducted by BLI. When comparing models, note that this optimum volume was instituted in May 2012. Optimum monthly volumes for models tested prior to May 2012 may be higher or lower.

STRENGTHS

- Bold, fully formed text, dark solids and excellent halftone range in print and copy modes
- Highly consistent colour gamut
- Print drivers are easy to install and use; Universal Print Driver includes both PCL and PostScript drivers; the help button on each tab is dynamic, saving users time searching for answers
- Print driver plug-ins add advanced functionality
- Scan to USB supports blank-page removal, encryption, preview and all typical scan settings
- High-capacity hard drive
- Logically organised control panel; users can select paper source and exit tray directly from the device graphic
- Users can store one-touch templates to quickly access frequently used settings for copy, scan and fax jobs; users can store jobs and emails to public or private mailboxes at the same time originals are scanned, copied or printed
- e-BRIDGE Open Architecture enables seamless integration with third-party solutions
- High tested black, magenta and yellow toner yields; cyan, black and magenta yields exceeded rated yields
- Apple AirPrint support

WEAKNESSES

- Below average productivity when printing BLI's job stream test from the PostScript driver and when printing and copying booklets
- Low rated drum and developer yields
- Low PM schedule compared with maximum monthly duty cycle and warning is easily overlooked
- Slower than average scan speeds and larger than average colour file sizes
- Default hole punch and job skip settings can result in paper waste
- During energy testing, BLI technicians discovered the device was waking up from super sleep mode overnight, resulting in increased energy usage, but technicians were unable to identify the cause

TEST RESULTS AND OBSERVATIONS

+, – and ○ represent positive, negative and neutral attributes, respectively.



RELIABILITY

GOOD

- + During the initial 225,000-impression test, the device experienced misfeeding in the fuser area and dog-eared pages, requiring a service call. After first replacing the exit reverse guide, and then replacing the fuser assembly, Toshiba service technicians ultimately identified that the misfeeding issue was due to rough surfaces on some areas in the fuser. Toshiba addressed this issue by applying a Polyimide film on the problem areas. According to Toshiba, the company has issued a technical publication that outlines this solution for field technicians. BLI then extended the test for 112,500-impressions, during which no further issues with dog-earring were experienced, and although

four misfeeds occurred, they were all in different locations and appeared to be unrelated to the earlier issues experienced.

- BLI technicians noticed that when the hole punch capacity was full, by default the device would continue to output jobs without hole-punched sheets, resulting in wasted paper. This could potentially result in a service call for customers who don't realize that this is a setting that can be turned off via the web utility. However, if job skip is turned off (the default setting), and the hole punch waste is full, jobs will back up in the queue. The ideal combination of settings for this is to have job skip on, and "continue when hole punch bin is full" off.
- The device has lower rated consumable yields (drum and developer) than its competitors, and, according to the company, the device requires a PM every 84,000 impressions, which is low compared with its duty cycle (for instance, regularly scheduled PMs would occur two to three times a month). However, there are no notifications or warnings that the device is due for a PM except for a message at the top of the copy menu screen, which appears later than 84,000 impressions, alternates with other messages and is easy to miss. According to Toshiba, an email alert can be set to notify administrators or dealers when a PM is due. Because of the lack of messaging, BLI ran the device without a PM until 184,110 impressions, when persistent image quality issues necessitated a PM.



MULTITASKING

GOOD

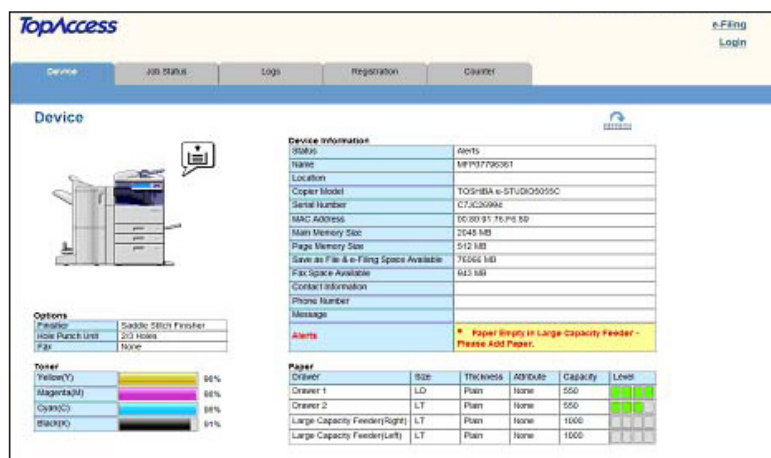
- Jobs are processed on a first-in, first-out basis.
- + The number of print and copy jobs that can be stored in the queue while a copy or print job is in progress is limited only by memory capacity.
- + It takes 7.18 seconds to download 15 print jobs to the device, which is faster than average for models tested to date.
- Users cannot program ahead while pages of a job are being scanned through the document feeder. Once the document feeder is free, users can scan to email while a job is in progress.
- When the device is misfed, users cannot access any functions of the control panel until the jam is cleared.
- When there is a misfeed, print jobs are still downloaded from the network.
- + While the device is out of paper, users can still send scan jobs, and print and copy jobs are saved in the queue.
- Secure print jobs can be released while the device is outputting jobs.

- + Users can interrupt a print or copy job to output an immediate copy job; interrupt supports selections for duplex, staple and quantity. Once the interrupting job is complete, the interrupted job resumes automatically after about 20 to 30 seconds, with no need for user intervention.
- As soon as users press interrupt, the device pauses the current job; some devices allow the job to continue running until the user presses “start.”
- There is a job skip capability that allows other jobs to run when resources for a particular job are depleted, however it is turned off by default.
- BLI technicians noticed that when the hole punch capacity was full, by default the device would continue to output jobs without hole-punched sheets, resulting in wasted paper. This can be turned off in the web utility. However, if job skip is turned off, and the hole punch waste is full, jobs will back up in the queue. The ideal setting for this is to have job skip on, and “continue when hole punch bin is full” off.



ADMINISTRATIVE UTILITIES

VERY GOOD



The screenshot shows the TopAccess web utility interface. It includes a navigation bar with links for Device, Job Status, Logs, Registration, and Counter. The main content area is divided into several sections:

- Device Information:** A table listing device details such as Name, Location, Copier Model, Serial Number, MAC Address, Main Memory Size, Page Memory Size, Save as File & e-Filing Space Available, Fax Space Available, Contact Information, Phone Number, and Message.
- Options:** A table listing various options like Finisher, Hole Punch Unit, and Fax, with their respective status (On/Off).
- Toner:** A table showing toner levels for Yellow (Y), Magenta (M), Cyan (C), and Black (K) with percentage indicators.
- Paper:** A table showing paper status for different drawers and feeders, including size, thickness, attributes, capacity, and a visual indicator for low paper.

TopAccess, the Embedded Web Utility (U.S. model pictured)

- + TopAccess, the embedded web utility, is easy to use overall. Administrators can view device status, job lists, and counters; configure settings; manage user/group/roles/departments; update the address book; register and modify templates; and download client software.
- BLI technicians found some aspects of the menu structure of the web utility difficult to navigate. For example, LDAP is labelled “directory services,” and buried under several sub-menus.
- Users can program destinations into the address book from the web utility.

- + LDAP search is supported from the web utility, so users can remotely add and edit destinations from the LDAP servers, which is a valuable time saver and prevents errors in 2 destinations that would otherwise be manually entered.
- + Users can clone device settings from one device to another via the web utility. Settings available include accounting, print settings, authentication, fax, job management, network scanning connectivity and security.
- TopAccess indicates the amount of toner remaining in 1-percent increments, while paper remaining in each drawer is indicated in 25-percent increments.
- Gauges for the drums are not provided in the web utility, nor are there gauges for the waste toner container, fuser or staple cartridge.
- + Email alerts can be sent to the administrator when consumables are depleted and errors occur, as well as when scan jobs are completed and faxes are received. Up to three key operators can receive email alerts via the web utility.
- Auto emails cannot be set up for when print or copy jobs are completed.
- + TopAccess also offers status information on currently running as well as pending print, copy, scan and fax jobs. Job priority can be changed and pending jobs can be deleted. Details on the job list include document name, date, time, type, status, paper, pages, sets and user name.
- Job log information is not consistent from log to log. For example, while the print log uses codes to indicate incomplete jobs, the scan log has more specific details pertaining to why a job was not completed.
- + Administrators can export job history as a CSV or XML file, a capability not available on some competitive machines.
- + Electronic meter counters available from TopAccess include information on prints, scans, faxes and copies for both small and large paper. Additional counters provide usage specific to different departments.
- TopAccess does not support the direct printing of files.
- + Copy, print, scan and Internet fax jobs can be stored on the unit with the e-Filing feature, as well as viewed and merged within TopAccess. Furthermore, users can pull the merged jobs back to their desktops as single- or multi-page PDFs or single-page TIFFs. The optional e-Filing system provides public and private storage for documents. All users have read and write access to the public box where they can store documents they wish to share with other users. Users can store confidential information in one of the 200 private user boxes, which can be secured with a password and managed by each user.
- Users can create up to 100 folders in both the public and private user boxes, but they cannot create subfolders within folders.

- + Documents can be stored directly in either type of box, and also in folders within the boxes. Up to 400 documents can be stored in each box and folder, while each document can contain up to 1,000 pages. Documents can be retrieved from the control panel or via the user's PC.
- + e-BRIDGE Fleet Management System (eFMS) is available from Toshiba dealers, direct sales and resellers. The software allows administrators and service providers to remotely configure, manage and monitor all networked Toshiba devices; information about third-party devices is limited, which is common. Devices can be grouped by location, department and cost centre, among other designations.
- + eFMS can automatically generate usage reports and email them directly to a designated person. They can be exported to Excel or as a PDF with graphs, and organised by month, year, location or cost centre.
- + eFMS can be configured to send pop-up messages and email alerts to key operators when a paper jam or other warning conditions arise. In the case of more severe technical difficulties, an email can be sent directly to the dealer or other service provider.
- + The e-STUDIO5055c offers 1,000 department and 10,000 user codes.



FEEDBACK TO WORKSTATIONS

GOOD

- + DocMon, which is available as a free download on Toshiba's website, enables pop-ups and audible alerts for print job completion and deletion; when faxes are transmitted or cancelled; when the device misfeeds or an error occurs; when the device is out of paper or toner; when toner is low or the waste container is full or near full; and when the printer is offline. All pop-up messages appear in one window, but the window doesn't automatically dissolve like with some competitive devices. Additionally, device status is provided on the taskbar. Users can configure their own settings for how and when they're notified.
- The DocMon Utility also offers information on paper supply (the size in each drawer and if the drawer is full or empty) and toner supply in 1 percent increments.
- The drivers illustrate the paper size loaded in each drawer. They also include a link to TopAccess, the embedded web utility. The web utility provides device information and status; the paper size in each drawer and amount in 25 percent increments; the amount of toner remaining in 1 percent increments; and the status of print, scan and fax jobs.



EASE OF NETWORK SETUP

GOOD

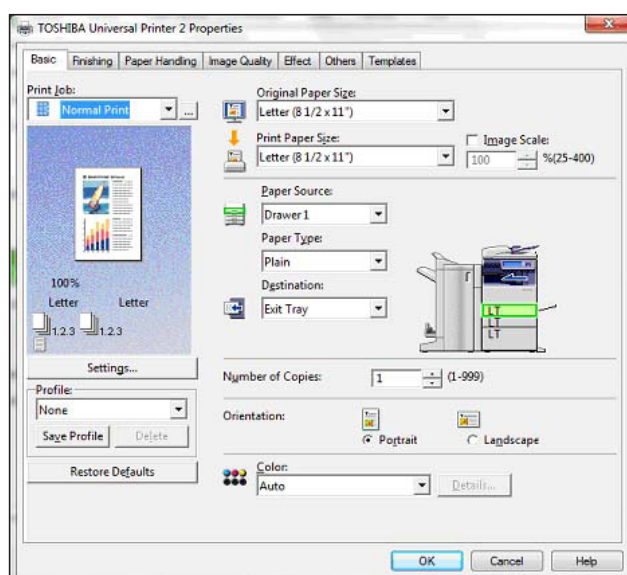
- The Universal Print Driver, scan utility, fax driver and user manuals are all included on one CD, and can also be downloaded via Toshiba's website. Setup for printing is highly automated. Users can select to install everything at once, or select the drivers to install separately. The software auto-detects that the unit has been installed on the network and automatically creates the port for network printing.
- + Toshiba's Universal Print Driver, which is an all-in-one driver that includes both PCL and PostScript, simplifies setup for administrators, as it requires them to install only one driver that includes both driver languages. Nine clicks are required to install the Universal Print Driver. An XPS driver is also available.
- + Configuring network settings via the control panel is simple.
- Setup procedures for network configuration via the web utility, including LDAP, scanning and the address book, are more difficult than with the majority of competing devices. The setup process is lengthy, as operators must navigate through multiple screens and tabs within the web utility.



PRINT DRIVERS

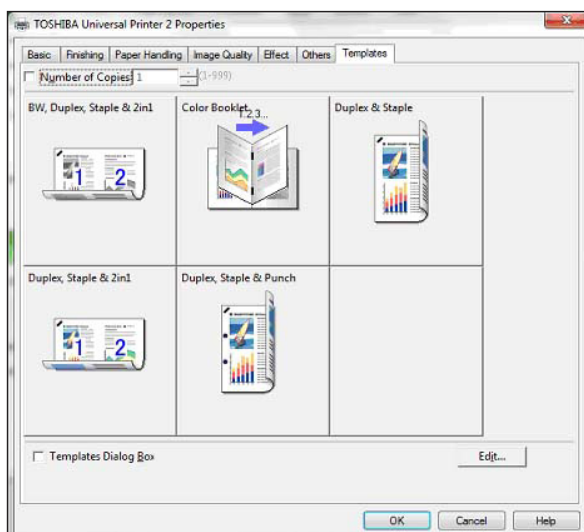
VERY GOOD

- The device ships with Toshiba's Universal Print Driver, which includes PCL 6 and PostScript 3, and supports XPS printing.
- + Thanks to the Universal Print Driver, the PCL and PostScript drivers are identical in appearance.



The Universal Driver (U.S. model pictured)

- The majority of the most commonly used features (quantity, colour mode, orientation, paper size, reduction/enlargement) are on the main screen of the print driver. Users have to navigate to other tabs in order to select duplex or finishing options. The help button, which is located on every tab, is dynamic and relates directly to the selection or tab that the user is currently in, making it easy to understand what each driver function is used for.
- It takes 7 clicks to program a typical print job from either driver and 8 clicks to program a booklet print job.
- + The drivers support point-and-click selection of paper source and output tray.
- The drivers display a graphical job review of programmed settings. Clicking on the settings button underneath brings up a pop-up window with job and device settings in text form.
- + The templates tab features five presets (black and white, duplex, staple and 2-in-1; colour booklet; duplex and staple; duplex, staple and 2-in-1; duplex, staple and hole punch) and one blank template. The settings of each template can be changed.



The Templates Tab (U.S. model pictured)

- + Users can select which tab they want to open first as their default setting.
- + Users have the ability to save and edit up to 20 profiles (five of which are defaults) for commonly run job types, accessible on every tab of the driver.
- + Advanced features under the Print Job pull-down menu include Scheduled Print, Proof Print, Private Print, Hold Print, Print to Overlay File, and Store to e-FILING, which allows users to store print jobs to electronic mailboxes. Users can also select "Multiple Job Type," which combines any of the other available print types with Store to e-FILING.
- + Private (secure) print jobs can be accessed at the device via the Print hard key. No details other than the job origin (device name) are visible in the queue. Once a PIN is entered,

any jobs sent with that PIN are revealed; multiple jobs with the same PIN can be released simultaneously. Once they are released (five steps), jobs are sent to the public queue, where details are once again hidden. Jobs cannot be deleted without entering a PIN.

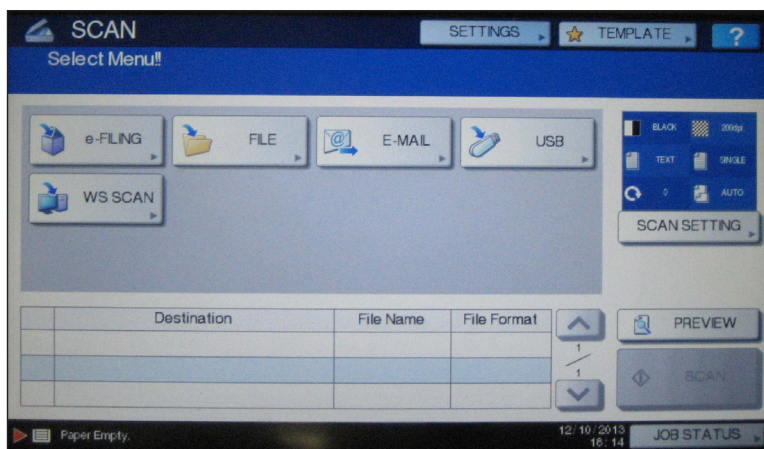
- Settings of secure print jobs are programmable only via the driver and cannot be changed at the device.
- The drivers do not support the ability to set up jobs with exceptions.
- Duplex mode can be set as the default print mode.
- + The Paper Handling tab allows users to include front and back covers, as well as to insert pages and print onto tab extensions. The procedures for setting up covers and tabs are simple. Users can also customize the paper source and paper type, with all four sources available.
- + The device supports printing onto tabs via the drivers. Tab paper must be fed through the bypass.
- + Tandem printing, which is standard, allows large print jobs to be distributed between two network printers for faster completion.
- + Toshiba offers four optional plug-ins for the Universal Driver. The Job Build plug-in lets users combine different file types and print as one file with the same settings; Job Separator lets users print multiple sets of a job with separator pages after a set number of sets; Job Replicator eX lets users print the same document from multiple paper sources at once with original print settings; Job Point lets users split jobs on up to 10 devices across a network.



SCAN FUNCTIONS

GOOD

- The Toshiba e-STUDIO5055c's rated scan speeds are up to 73 ipm in colour and black.
- The unit's tested scan speeds are slower than average for the competitive group in all modes.
- While no compression is offered in black mode, file size is competitive.
- Compressed colour file size is higher than average compared with copier-based MFPs tested to date.
- Users can scan to email, network folders, device (e-filing), WS scan and USB; only two destination types are supported at once. All destinations are accessible from the same screen.



The Scan Menu (U.S. model pictured)

- File formats supported include PDF, compact PDF, TIFF, XPS and JPEG.
- Searchable PDF mode is not supported as standard.
- Toshiba's optional Re-Rite software allows users to convert paper documents into a wide range of editable file formats and then distribute those files to a shared network folder, an email address or both.
- Frequently used destinations can be programmed as favourites.
- + The QWERTY keypad for scan to email is large and includes a range of symbols, including @ and various others, eliminating the need to press the shift key to select the desired symbols. BCC and CC are supported.
- The device offers a thumbnail view of programmed scan settings.
- Scan settings don't clear automatically after a job is programmed.
- Preview is available for scan jobs. Users can delete, insert or replace pages and zoom in and out. Job build is also available from the preview screen, but users may not notice the feature is available. Users can change settings for each new batch of documents scanned and added to the job build. Once a user hits "OK" in preview, it sends the job with no warning and all of the settings remain on screen, so there is no clear indication whether or not the job sent, which may cause a user to do it all over again.
- + Background suppression and blank page removal modes are supported.
- + The unit supports up to five LDAP servers. Users can search LDAP by email address, first or last name, corporation or department.
- Addresses located via LDAP can't be automatically stored locally. Destinations have to be manually programmed at the control panel or in TopAccess to be stored in the address book.

- + The procedure for locating email addresses via LDAP is very simple, requiring six key-strokes to perform a scan-to-email job using LDAP support when sending to one destination.
- Users can add details to address book entries, such as first/last name, fax, email, company department and keyword, but can only see those details if editing the address book, which is in the user functions menu. Otherwise, the only visible details are the name and email address, even when selecting a fax destination.
- When users plug in a USB memory device, the menu to print/scan doesn't automatically appear.
- + Scan to USB supports TIFF, PDF, encrypted PDF, JPEG and XPS. Users can browse into subfolders, and select any of the scan settings for a typical job, including blank page removal and preview mode.
- Print from USB supports PDF, XPS and JPEG file formats, and only displays files in those formats. Users can browse into subfolders, select and print multiple file/file types at once, and select settings such as duplex, finishing features, media source and quantity.
- Print from USB does not support preview, colour/mono selection, blank page removal or program ahead.



IMAGE QUALITY

Colour Print/Copy Quality

GOOD

- Business graphics were brightly saturated in print mode, with above average reproduction of light backgrounds. Production of pastel shades, sharpness of fine details and consistency of solid colours were competitive. The full range of halftones was visible in photographic images, with distinct separation between each level. Sharpness of fine details was competitive, flesh tones were slightly reddish and there was an average amount of graininess.
- In copy mode, business graphics were not bright enough, with competitive production of pastel shades and sharpness of fine details. Reproduction of light backgrounds was better than average and solid colours exhibited consistent coverage. Fleshtones were slightly reddish in photographic images, and halftone levels were hard to distinguish above the 90% fill level. Images also displayed an average amount of graininess.
- + The unit exhibited a minor increase in gamut volume in the green-yellow regions of the spectrum after the start of testing, with all other areas of the spectrum remaining highly consistent over the test's duration.

Black Print/Copy Quality

VERY GOOD

- + In both print and copy modes, text was dark and fully formed, with competitive sharpness of characters and smoothness of curves and serifs. There was no evidence of halving or toner overspray in neither text nor line art.
- + Line art was very good in print mode. There was an average amount of stair-stepping in diagonal lines and competitive consistency of line thickness, while closely spaced fine lines remained distinct, and circles were fully formed.
- In copy mode, line art was good, exhibiting some stair-stepping in diagonal lines, average production of closely spaced fine lines and competitive consistency of line thickness.
- + Greyscale was visible over the entire measured range, with distinct separation between each level. Halftone fill exhibited an average amount of graininess, and, in print mode, no banding. There was minimal banding observed in copy mode.
- + Solids were dark, with an average amount of mottling in both modes.

**PRODUCTIVITY****Colour Print/Copy Productivity**

GOOD

- When printing BLI's job stream test, which simulates typical traffic in a busy workgroup environment, the Toshiba e-STUDIO5055c's tested speed is competitive when using the PCL driver, however, efficiency (the percentage of its rated speed) is below average.
- When using the PostScript driver to print BLI's job stream test, the e-STUDIO5055c is the least productive model in the group.
- + Productivity is above average when printing sets in duplex mode; in simplex mode, tested speed is above average, while efficiency is competitive.
- Productivity is competitive when copying sets in simplex mode.
- While tested speeds fall in the competitive range when copying sets in 1:2 and 2:2 duplex modes, efficiency is below average—the second lowest and lowest of the group, respectively.
- + First-copy time from the document feeder is faster than average, but competitive via the platen.
- The device is the least productive model in the group when printing and copying booklets.

Black Print/Copy Productivity

GOOD

- When printing BLI's job stream test using the PCL driver, productivity is competitive.
- When using the PostScript driver to print BLI's job stream test, the e-STUDIO5055c is the least productive model in the group.
- Productivity is at the top of the competitive range when printing sets.
- Productivity is competitive when copying sets in simplex and 1:2 duplex modes; in 2:2 duplex mode, tested speed is competitive, while efficiency is below average.
- First-copy times are competitive from both the platen and the document feeder.
- The device is the least productive model in the group when printing and copying booklets.



EASE OF USE

VERY GOOD

- + The e-STUDIO5055c's colour touchscreen control panel is logically organised and features hard keys to access the main functions and touchscreen selections for each menu. The display was bright at default settings, but is also adjustable via the user functions hard key. A question mark icon provides dynamic help related to the menu or sub-menu a user is currently in.



The e-STUDIO5055c's Control Panel (U.S. model pictured)

- + The control panel tilts up and down freely.
- The copy menu features three tabs (basic, edit and image), and all the most commonly used copy features are accessible, if not programmable, from the basic tab, includ-

ing duplex, finishing, exposure, paper drawers and reduction/enlargement. When the reduction/enlargement, finishing, duplex and text/photo options are selected, users are taken to sub-menus to complete their selections.

- + Paper source and exit tray can be selected directly from the graphic of the device on the basic tab. The paper drawer graphics indicate the paper levels remaining in each drawer. Proof copy is also selectable from the basic tab, as is exposure, with adjustments for darkening or lightening the image, as well as an auto exposure setting. All the job settings currently selected can be seen from the basic tab as both text and icons.
- + Touch keys for storage and template are located at the top of every control panel screen for easy access. With storage, scanned data can be stored in the e-filing box of the machine at the same time originals are scanned or copied. Users can also opt to store scanned data in the shared folder of the machine or a computer on the network. Up to 12,060 templates can be stored to enable one-touch access to frequently used settings for copy, scan and fax jobs.
- The settings touch key serves as a convenient location for users to view all selected settings for the current job being programmed. Shortcuts to each of the menus in which a setting is currently selected are also provided, so that users can conveniently change the current settings, if desired.
- + When an authenticated user selects the menu hard key, his or her 60 default templates will be displayed, as will counter information specific to that user. The 60 templates are among the 12,060 templates that can be created from the control panel. In addition, the menu hard key will show any restrictions an authenticated user has. If any embedded applications are installed, they will be accessible from here as well.
- + The Job Status key opens up the device's highly detailed job queue. Copy and print are combined in one queue, while separate queues are available for scan and fax. Users can delete and pause jobs stored in the queue. In the combined print/copy queue, the user name and date/time of each job is indicated, as are the number of sets for each job. The number of originals in print and copy jobs is also indicated.
- The Counter hard key provides information on copy, fax, print and scan jobs for black and full colour, and can be printed.
- + Via the Edit tab, job build is available using both the feeder and the platen. Users can scan groups of originals with different settings, such as quantity, colour mode, reduction/enlargement and simplex or duplex, to be printed as one document. In addition, if the number of originals in a job exceeds the document feeder capacity, pages can be scanned in two or more batches and combined.
- In job build, stapling is only selectable when programming the first set of originals and is greyed out thereafter. If users do not select it on the first batch, but wish to add stapling later on, they must start the job build process over. Additionally, job build does not support automatic paper selection, and therefore cannot accurately copy mixed-size originals. So, if a user programs an A4 job and then a larger-size job, both jobs will print on A4 paper. While this is comparable to competitive machines' job build, BLI technicians

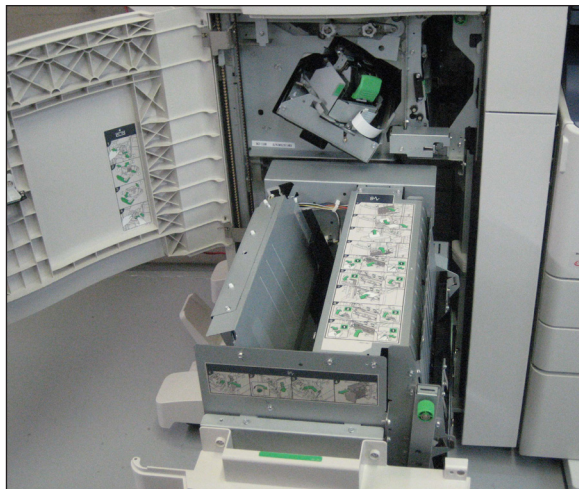
feel that these features could be improved. Users must select the “Job Finish” touch key, which is small and easy to overlook, in order for a job build job to begin outputting.

- + The Edit tab is also where users can program additional job settings such as Omit Blank Page, Outside Erase, Time Stamp and Page Numbering.
- + Loading paper in the paper drawers is very simple. There are no rollers to move or trays to lock. All of the drawers, aside from the optional A4 LCT, include automatic paper sensors to detect changes in paper size.



Loading paper is simple. (U.S. model pictured)

- A pop-up message appears on the control panel when the paper size in the drawers has been changed and must be confirmed by the user.
- The drawers feature sliding length and width guides, which make it easy to adjust them for different sizes.
- The bypass tray is automatically selected when paper is loaded but users must select the correct size. Auto tray switching has a separate on/off setting for print and copy jobs. Most devices have one setting for both print and copy.
- In default mode, users must release each job from the print queue at the control panel when printing to the bypass tray. According to Toshiba, this is done to eliminate the possibility for another user to accidentally pull specialty media for their normal job.
- A service call is required to make the bypass tray auto feed, which allows jobs using the bypass tray to be released automatically if the paper selected in the driver matches up with the paper loaded in the bypass tray. BLI technicians would prefer that administrators had the ability to change this setting.
- + Access to misfeed areas, which are well labelled and clearly identified, is above average. The machine offers step-by-step, dynamic instructions for misfeed removal.



Like many competing machines, users can clear misfeeds in the finisher area by simply opening a door at the front or top of the device, keeping the footprint at a manageable size. (U.S. model pictured)

- + The Toner tab accessible via the Job Status key indicates the amount of toner remaining in 1-percent increments.



Toner replacement is easy. Instructions on toner replacement are provided onscreen and on the inside of the cover of the device. (U.S. model pictured)

- By default, copy and print jobs can be moved in queue, but the process is more limiting than with most competitive devices. The first 10 jobs in the queue cannot be moved. Subsequent jobs that fall in line after the first 10 can be moved up, but the highest position in the queue they can be moved to is the 11th position, because, as noted, the order of the first 10 jobs cannot be changed. As jobs are processed on a first-in, first-out basis, the only way for walk-up users to promote their copy jobs is to interrupt the current job. During installation, service can change a setting to specify the position in the queue where jobs can begin to be promoted; for example, the job in slot two could be moved up to be output next.

- + The unit has a job recovery feature for a misfeed in the RADF; once it's cleared and the sheet is reinserted, the job will automatically continue rather than be deleted.



FEATURE SET

GOOD

- The e-STUDIO5055c's standard paper capacity of 1,100 sheets, not including the bypass, is competitive with the group. The drawers support media weights up to 256 gsm, which is also competitive.
- Maximum paper capacity of 3,200 sheets is tied for the lowest of the group.
- The capacity of the 100-sheet bypass is competitive, as are the paper weights it supports (up to 280 gsm).
- + The 320-GB hard drive capacity is among the highest of standard competitive offerings, and is higher than average when compared with the group's maximum hard drive capacities.
- Non-upgradable RAM capacity of 2 GB is competitive with the standard and maximum capacities of the group.
- The unit offers an optional 100-sheet RADF, while most of the group offer document feeders standard; the majority of the devices in the group have a DSPF, which helps to reduce wear and tear on originals by enabling both sides of two-sided originals to be scanned in a single pass.
- Finishing options include a 2,250-sheet multi-position finisher and a 3,250-sheet saddle-stitch finisher that saddles stitches up to 15 sheets to make 60-page booklets; optional hole punch units are available for each finisher.
- Users can select multi-copy runs up to 999, which is competitive.
- Other copy features include ID card copy, interrupt, job build, stamping, and reduction and enlargement from 25% to 400% in 1% increments.
- + The device offers 1,000 department/10,000 user codes. In addition, up to 12,060 templates can be stored to enable one-touch access to frequently used settings for copy, scan and fax jobs.
- + Toshiba's open platform architecture allows optional Toshiba and third-party solutions to be embedded for direct access from the control panel.
- The 33.6-Kbps fax option offers 12,060 speed dial destinations, batch files, polling, battery backup, confidential transmissions and receptions and incoming fax routing to shared folders, email or e-Filing. A second fax line, which would allow simultaneous transmissions and/or receptions, is available as an option.

- + In addition to the standard 10/100/1000Base TX Ethernet interface, organisations can add an optional wireless (802.11b/g/n) interface.
- + The device supports Apple AirPrint, allowing users to print to the device directly from their iPhones and iPads.



SECURITY FEATURES

EXCELLENT

AUTHENTICATION	
Network user authentication at control panel	Yes (up to 16 servers)
Windows	Yes
Novell NetWare NDPS	Yes
LDAP	Yes
Kerberos	Yes
802.1x wireless	Yes
SMTP	Yes
POP before SMTP	Yes
Biometric	No
ID Card	Yes
HID	Yes
Common Access	Yes
Other	CAC
Registered department or user ID codes	Yes
Number	10,000 users/1,000 departments
ACCESS CONTROL	
Restrict colour	Standard
Control panel lock/disablement	Standard
Restrict access to address book	Standard
Restrict USB port	Standard
Restrict direct printing	Standard
Restrict other	Various
HARD DRIVE	
Encryption	Standard, FIPS 140-2 Certified
Maximum level	AES 256 Bit
Overwrite	Standard
Method	Compliant with DOD
Maximum number after a job	15
Maximum number at end of lease	15
Lock	NA
Removable	No
Password-protected mailboxes	Standard
Data auto-deletion in mailboxes	Standard

JOB TRACKING	
Job logs	Standard
Digital signature	No
Verify document came from device	Yes
Verify document came from specific user	Yes
JOB PROTECTION	
Encrypted secure print	Yes (PDF direct print)
Secure print	Yes
Encrypted scanning	Standard
Maximum level	AES 128 Bit
For scan to USB	Yes
Unauthorised scan/copy protection block (watermark)	Standard
Compatible with same-brand devices	Yes
Compatible with third-party devices	No
NETWORK SECURITY/PROTOCOLS	
Protocol disablement	Standard
Port disablement	Standard
IP address filtering	Standard
MAC address filtering	Standard
HTTPS	Standard
Self-signed certificate	Yes
Certificate signing request	Yes
IPsec	Optional
IPv6	Standard
Secure Sockets Layer (SSL)	Standard
S/MIME encryption	No
SNMPv3 support	Standard
Transport Layer Security (TLS)	Standard
Trusted Platform Module (TPM)	No
CERTIFICATIONS	
Common Criteria	Yes
EAL level	3
Capabilities certified	Entire security suite
FIPS 140-2	Yes
Level	2
IEEE 2600	Yes
OTHER	
Administrator password length	Up to 64 alpha/numeric characters
Password-protected web server	Yes
Additional features	Password policy
Third-party features	FollowMe, PaperCut, Pharos Blueprint

INA: The vendor declined to provide this information

NA: Not applicable



ACCESSIBILITY FEATURES

NOT RATED

Accessibility handle	Optional
Braille label kit	No
Enlarged display mode	No
Remote operator software	No
Tilting control panel	Yes
Voice guidance (audible instructions)	No
Voice operation (responds to voice commands)	No



ENVIRONMENTAL FEATURES

NOT RATED

Specified capable of running 30% post-consumer recycled paper	Yes
Specified capable of running 50% post-consumer recycled paper	Yes
Specified capable of running 100% post-consumer recycled paper	Yes
Instant/Quick Fusing	Yes
Duplexing	Yes
Toner-save mode	Yes
Energy-save mode/modes	Yes
RoHS compliant	Yes
Percentage of this product that is made with recycled materials/parts	4.2
Are recycled materials taken from previous devices that have been returned by your customers	No
Are recycled materials taken from post-consumer materials	Yes
Are recycled materials taken from pre-consumer materials	Yes
Are recycled materials taken from bio-based materials	No
Product designed for recycling (easily disassembled, no binding agents)	Yes
Hardware remanufacturing program for this product	No
Toner cartridge recycling program for this product	Yes
Pre-paid label for return of toner cartridges/bottles for this unit	Yes
Toner recycling system	No
Ability to program features such as duplexing and auto shut-off over entire fleet	Yes
What tool can be used to do this?	Top Access, e-BRIDGE Fleet Management System
Green packaging materials for the product	Yes
Green packaging materials for its consumables	Yes
Packaging materials used	Fibreboard (made from recycled paper), EPS and plastic bags

Eco-Label Certifications	
ENERGY STAR	Yes
Other	ECMA-370/The Eco Declaration, Germany Blue Angel, Japan Eco Mark, Nordic Swan label, Taiwan Green Mark, Chinese Environmental Labelling, Chinese Low Carbon and Environmental Labelling and China Energy Conservation Product certification
Tested energy consumption levels of the device (watts):	
Ready/Idle	1,000
Energy-save	80
Sleep mode	1
During Printing	1,200
How fast can this product be programmed to go into the following modes:	
Ready/Idle	35 seconds
Energy-save	NA
Sleep mode	60 seconds
Can the above settings be programmed by a walkup user	Yes
First-print time after being in sleep mode (seconds)	26 seconds
Emissions output from this device for the following substances (mg/h):	
Ozone	<1
Styrene	<0.5
Benzene	0.04
TVOC	<10
Dust	<0.5
Other	NA

INA: The vendor declined to provide this information

NA: Not applicable



TONER YIELD

VERY GOOD

- + Tested cyan, magenta and yellow toner yields are the highest of their competitive groups.
- + Tested cyan yield exceeded its rated yield by more than 20,000 impressions; tested black and magenta yields also exceeded rated yields.
- Tested black yield is competitive with the group.
- Tested yellow yield fell short of its rated yield by less than 300 impressions.

SUPPORTING TEST DATA

Test Environment: This product was tested in BLI's 929-square-metre U.S. test lab, in an environment monitored by an Extech RH S20 Digital RH/Temperature Recorder and Honeywell Model 61 Seven-Day Temperature/Relative Humidity Chart Recorder. All products lab tested by BLI are powered by dedicated circuits that are protected by ESP (Electronic Systems Protection, Inc.) surge protectors to prevent transient power and communication disturbances from affecting equipment under test.

Test Equipment: BLI's dedicated test network, consisting of Windows 2003 and Microsoft Exchange servers, Windows 7 workstations, 10BaseT/100BaseTX network switches and CAT5 cabling.

Test Duration: Products are tested for two months, five weeks of which consists of a durability test during which the product is run at its manufacturer-rated maximum monthly duty cycle, with 25 percent of the test volume comprised of copy jobs and 75 percent comprised of print jobs. BLI's daily test usage is designed to replicate real-world use over an eight-hour workday, and as such includes a mix of various-size documents, simplex and duplex modes, and a mix of short, moderate and long run lengths, and on/off cycles, throughout the day. The durability evaluation also includes testing of the document feeder/scanner in simplex and duplex modes for an additional 20 percent of the monthly maximum volume, evenly divided over the course of the test. Imaging media includes virgin multi-use paper. Recycled multi-use paper comprised of 30%, 50% and 100% post consumer waste is also tested for up to 10% usage of each of the recycled media types.

Tested Configuration: Base unit with optional 2,000-sheet LCT, RADF, booklet finisher and punch unit

Test Procedures: The test methods and procedures employed by BLI in its lab testing include BLI's proprietary procedures and industry-standard test procedures, including a BLI-developed variation of ASTM's 1318-90 Test Method for Determination of Productivity using Electrostatic Copy Machines. In addition to a number of proprietary test documents, BLI uses an industry-standard KATUN test original for evaluating black image quality and test suites from Quality Logic to evaluate applications compatibility. Along with a visual observation, colour print quality is tested using the ANSI standard IT8 Colour Test Target, which is read using the Minolta CM503i Spectrophotometer, and samples are analysed using the CIE XY Chromaticity Diagram. Additionally, density of black and colour output is measured using an X-Rite 428 Densitometer. Georgia-Pacific Spectrum Multi-Use Paper is used in the tests, 10 percent of which is recycled paper containing 30 percent post-consumer content. Image quality is tested using Georgia-Pacific Printing Paper. Units are tested for compatibility on Windows 7 with Microsoft Office Suite 2010, as well as Adobe Acrobat Reader 10.0. Tests are conducted using U.S. letter/ledger paper; A4/A3 results may vary slightly.

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IT Director



RELIABILITY

Test Duration (first test)	225,000 impressions and 45,000 scans
Service Calls/PMs during initial test	1/1
Misfeeds during initial test	7
Misfeed Rate during initial test	1/32,143
Test Duration (retest)	112,500 impressions
Service Calls/PMs during retest	0/0
Misfeeds during retest	4
Misfeed Rate during retest	1/28,125



IMAGE QUALITY

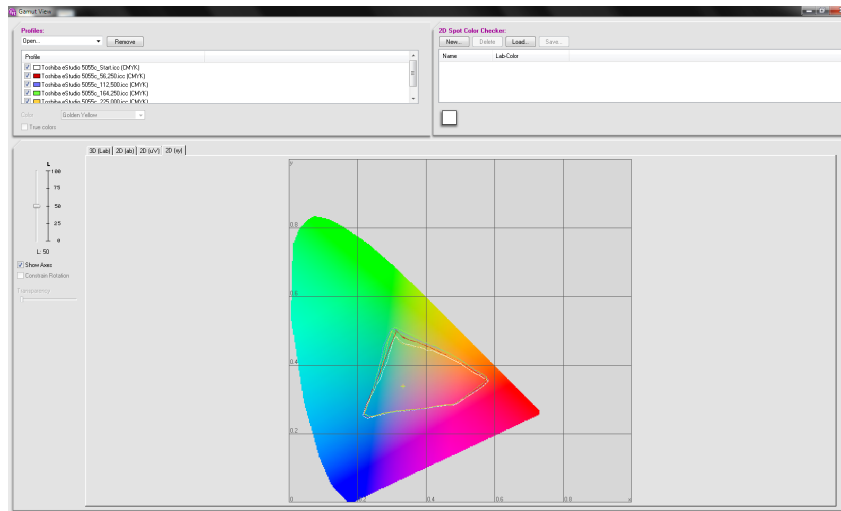
Print Quality

Text	Very Good
Line Art	Very Good
Halftone Pattern	Very Good
Halftone Range	Excellent
Solids	Very Good
Colour Business Graphics	Good
Colour Photographic Images	Good
Colour Shift	Very Good

Colour Shift Readings

Test Point	Delta E	BLI Rating
56,250	3.91	Very Good
112,500	3.10	Very Good
164,250	3.49	Very Good
225,000	3.63	Very Good

Delta E is a colourimetric measurement assessing the distance between colours. The readings above reflect the average shift of the colour gamut from the previous measured point.



The unit exhibited a minor increase in gamut volume in the green-yellow regions of the spectrum after the start of testing, with all other areas of the spectrum remaining highly consistent over the test's duration.

Colour Density Readings

Colour	Yellow	Magenta	Cyan
Print Density	1.07	1.47	0.93
Competitive Average	0.90	1.18	1.09

Density of a printed image with blocks of all solid colours (based on the average of two readings for each colour).

Print Density Range

Toshiba e-STUDIO5055c	1.61 to 1.65
Density for devices in this class tested to date	1.23 to 1.82

Measurements are based on four readings corresponding to four different solid black locations on output. The higher the density reading, the darker the image.

Print Density Average

Toshiba e-STUDIO5055c	1.63
Average density for devices in this class tested to date	1.48

The higher the density reading, the darker the image.

Halftone range:

Halftone output was visible from the 10 percent to 100 percent dot-fill levels.

Copy Quality

Text	Very Good
Line Art	Good
Halftone Pattern	Good
Halftone Range	Excellent
Solids	Very Good
Colour Business Graphics	Good
Colour Photographic Images	Good

Colour Copy Density Readings

Colour	Yellow	Magenta	Cyan
Original Density	1.07	1.43	1.52
Copy Density	1.14	1.57	1.61
Competitive Average	1.84	1.23	1.28

Density of copied image when tested in "Full Colour" copy mode using a KATUN test original containing blocks of all solid colours (based on the average of two readings for each colour).

Colour Fidelity Readings

Colour	Yellow	Magenta	Cyan	Red	Green	Blue	Black
Fidelity	4.78	4.72	9.73	8.85	12.14	20.71	3.17
Competitive Average	5.33	6.26	5.98	8.60	9.42	14.34	3.28

Colour fidelity of a copy to its original (using a KATUN test original containing blocks of all solid colours: tested in walk-up mode using the machine default settings in "Full colour" mode and auto exposure settings); average of two readings for each colour. Measurements are taken with a Minolta CM-503i spectrophotometer. The closer the number is to 0, the closer the copy's colour fidelity is to the test original (based on the average of two readings for each colour).

Copy Density Range

Original	1.79 to 1.79
Toshiba e-STUDIO5055c	1.54 to 1.61
Density for devices in this class tested to date	1.15 to 1.80

Measurements are based on two readings corresponding to two different solid black locations on the output. The higher the density, the darker the image.

Copy Density Average

Toshiba e-STUDIO5055c	1.58
Average density for devices in this class tested to date	1.51

The higher the density reading, the darker the image.

Visible Halftone Range

Toshiba e-STUDIO5055c	15% to 100%
Halftone increments on test original	15, 29, 53, 77, 83, 91, 95, 100%



PRODUCTIVITY

Print Productivity

Average Print Productivity | Competitive Average

SPEED IN PPM			PERCENT OF RATED SPEED	
AUTO COLOUR				
1:1	36.3	30.9	72.6	67.9
1:2	35.0	28.0	69.9	61.4
BLACK				
1:1	40.1	35.5	80.3	77.3
1:2	37.6	32.8	75.2	71.2

Efficiency is tested using a 10-page full-colour document and a 10-page black document. BLI obtains the overall efficiency for each mode by averaging the efficiency ratings (derived by dividing the tested speed of the device by the rated speed and then multiplying by 100) for each run length (1, 5 and 10 sets). The unit's efficiency was tested using the PCL driver.

Job Stream | Competitive Average

SPEED IN PPM			PERCENT OF RATED SPEED	
PostScript				
AUTO COLOUR	9.7	22.0	19.5	48.6
BLACK	16.0	27.6	32.0	59.9
PCL				
AUTO COLOUR	27.0	27.2	53.9	59.6
BLACK	34.1	31.6	68.2	68.6

BLI's job stream includes Word documents, Outlook e-mail messages, Excel spreadsheets, PowerPoint, HTML and Acrobat PDF files, totalling 19 pages. This test simulates the type of traffic a typical device might experience in a real-world, multi-user environment. All of the files are sent to the device as a group, at which time the stopwatch begins; timing ends when the last page of the last file exits the device. Job stream efficiency is determined by the percentage of the rated speed at which the device operates when producing real-world jobs. The closer the rate is to 100%, or if it exceeds 100%, the more efficient the device.

Tests were conducted using U.S. letter-size paper; A4 results may vary slightly.

Copy Productivity

Average Copy Productivity | Competitive Average

SPEED IN PPM			PERCENT OF RATED SPEED	
AUTO COLOUR				
1:1	28.5	29.4	56.9	64.6
1:2	24.6	27.0	49.4	59.2
2:2	26.3	29.5	52.7	65.0
BLACK				
1:1	40.2	37.4	80.4	81.2
1:2	35.9	32.8	72.0	71.2
2:2	35.0	35.7	70.0	77.4

Efficiency is tested using a 10-page full-colour document and a 10-page black document. BLI obtains the overall efficiency for each mode by averaging the efficiency ratings (derived by dividing the tested speed of the device by the rated speed and then multiplying by 100) for each run length (1, 5 and 10 sets). The unit's efficiency was tested using the PCL driver.

First-Copy Time in Seconds | Competitive Average

AUTO COLOUR		
Platen	6.52	8.47
Document Feeder	7.82	10.32
BLACK		
Platen	4.84	5.91
Document Feeder	5.57	7.17

Productivity in Booklet Mode | Competitive Average

SPEED IN PPM			PERCENT OF RATED SPEED	
Auto-Colour Print	22.4	27.9	44.9	61.4
Black Print	20.9	28.5	41.7	61.5
Auto-Colour Copy	22.5	22.8	45.0	63.3
Black Copy	22.6	29.2	45.1	63.0

Productivity is tested by having the device fold, saddle-stitch and output 10 sets of a 16-page PDF file. Testing in print mode is conducted using the PCL driver at 600 dpi. The closer the efficiency rate is to 100%, or if it exceeds 100%, the more efficient the device.

Tests were conducted using U.S. letter/ledger paper; A4/A3 results may vary slightly.



SCAN FUNCTIONS

Tested Scan Speed in IPM | Competitive Average

AUTO COLOUR		
1:1	59.7	62.5
2:2	30.9	82.4
BLACK		
1:1	60.3	64.6
2:2	30.9	87.3

Files are scanned at 300 dpi in PDF format. Competitive averages represent the average scan speed for devices in this speed range tested to date.

Tested Scan File Size in KB | Competitive Average

Full Colour (default compression)	1,320.96	1,097.88
Full Colour (compact PDF)	1,116.16	324.73
Black	42.8	289.95
Black (compact PDF)	NA	48.34

Testing is conducted with single-page files scanned at 300 dpi in PDF format.



PRINT DRIVERS

Windows XP	PCL	PostScript 3
Auto Feature/Device Detection	Yes	Yes
Blank Page Removal	Yes	Yes
Booklet Printing	Yes	Yes
Carbon Copy Mode	Opt	Opt
Collate Sets	Yes	Yes
Consumables Gauge	No	No
Cover Mode	Yes	Yes
Default Duplex	Yes	Yes
Delayed Print	Yes	Yes
Envelope Selection	Yes	Yes
Exception Programming	Yes	Yes
Max Paper Sources Per Job	4	4
N-up Printing	2 to 16	2 to 16
Overlay	Yes	Yes

Windows XP	PCL	PostScript 3
Paper Gauge	No	No
Point Click Output Source	Yes	Yes
Point Click Paper Source	Yes	Yes
Poster Mode	Yes	Yes
Print and Hold	Yes	Yes
Print Text as Black	Yes	Yes
Proof Print	Yes	Yes
Quantity Selection	Up to 999	Up to 999
Reduction/Enlargement	25% to 400%	25% to 400%
Resolution Modes (dpi)	600, 1200	600, 1200
Save Settings	Yes	Yes
Secure Printing	Yes	Yes
Tab Printing	Yes	Yes
Toner Save Mode	Yes	Yes
Watermarks/Custom Watermarks	Yes/Yes	Yes/Yes



TONER YIELD

Tested Toner Yield | Competitive Average

	Black		Cyan		Magenta		Yellow	
Tested Impressions	36,768	38,379	49,336	31,980	30,526	24,346	27,377	20,168
Rated Yield	32,000	32,742	28,000	22,793	28,000	22,793	28,000	22,793

Based on an average of two cartridges per colour using BLI's toner yield test original with 5% page coverage.

CERTIFICATE OF RELIABILITY

Awarded to
TOSHIBA TEC CORPORATION
for the performance of the
Toshiba e-STUDIO5055c
in BLI's in-house durability test.


ANTHONY F. POLIFRONE
MANAGING DIRECTOR



JULY 2014

DATE

This is to certify that when subjected to a 337,500-impression Buyers Lab durability test,
the Toshiba e-STUDIO5055c proved to be a reliable product.

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