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Information technology — Office equipment — Method for measuring single photo printing time for digital printing devices

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 28, *Office equipment*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

In recent years, photo printing devices have become widely available leading to widespread adoption of photo printing. Digital photo printing devices usually produce photoprints in short time.

The existing international standard (ISO/IEC 24734) for measuring printing productivity mainly addresses a method for measuring business documents. These documents may be multiple copies and consist of mixed content of text and graphics, on 8,5" × 11", A4, A3, and 11" × 17" paper typically used in offices. Another existing international standard (ISO/IEC 17629) for measuring first page out time addresses first page productivity of business documents at various states (ready, sleep, off) of devices.

This document provides a method and a procedure for measuring single photo printing time of digital photo printing devices. It allows manufacturers of digital photo printing devices to describe the single photo printing time and it allows buyers to compare various digital photo printing devices with respect to representative photo size and usage.

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Information technology — Office equipment — Method for measuring single photo printing time for digital printing devices

1 Scope

This document specifies a method for measuring single photo printing time of digital photo printing devices on a wide range of print technologies. This document is applicable to digital photo printing devices that can produce photo prints on either 2” × 3” (51 mm × 76 mm), L (89 mm × 127 mm), 4” × 6” (102 mm × 152 mm), A6 (105 mm × 148 mm), A4 (210 mm × 297 mm), 8,5” × 11” (215,9 mm × 279,4 mm), 11” × 17” (279,4 mm × 431,8 mm), A3 (297 mm × 420 mm) or A3+ size sheets. Devices can be connected to either the computer system, media card or mobile devices. This document includes test setup procedure, test runtime procedure and reporting requirements for the digital single photo printing time measurements. Instant photoprint systems, which do not complete image formation at the time of paper ejection from device, are out of the scope of this document.

NOTE Inkjet, thermal transfer, dye-sublimation, electro photo and colour or monochrome thermal activated systems (such as ZINK®[1)]) are typical technologies of the scope.

2 Normative references

ISO/IEC 24734, *Information technology — Office equipment — Method for measuring digital printing productivity*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 24734 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
A3+
sheet size similar to A3 but slightly larger than A3

Note 1 to entry: A3+ is slightly larger in each dimension than A3. Examples of A3+ are 329 mm × 483 mm and 320 mm × 450 mm (SRA3).

3.2
default driver
printing device driver that is selected as the default per the manufacturers’ installation procedure

3.3
full detailed report
presentation of information including device setup and measured test results

Note 1 to entry: An example of full detailed report is shown in Annex A. Also refer to 7.4

1) ZINK is an example of a suitable product available commercially. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO or IEC of this product.

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[SOURCE: ISO/IEC 24734: 2021, 3.11, modified – "machine" has been replaced by "device", the word "full" before "measured test results" has been removed and the Note 1 to entry has been modified to reference Annex A.]

3.4
single photo printing time
number of seconds between first movement of the media to the full ejection of the media or the number of seconds between the full ejection of a sheet of media and the full ejection of the next sheet of media

3.5
ready
ready state
state which a device typically enters after completing a print job where the printing engine is in a stable condition, but fully warmed up and prepared to operate

Note 1 to entry: While in the ready state, systems not directly involved with marking the media may be still in motion. For example, fans may still be spinning.

[SOURCE: ISO/IEC 17629: 2014, 2.8, modified – Term “ready” was added and "to print" was replaced by "to operate".]

3.6
test file
file used for testing as per the test method

[SOURCE: ISO/IEC 24734: 2021, 3.29, modified –"individual files" was replaced by "file" because only a single file is used for the test method in this document and the example was removed.]

4 Test parameters and conditions

4.1 Test platform test setup procedures

4.1.1 Initial platform setup

The test platform hardware shall be installed as per the manufacturer's instructions. The information of the test platform hardware shall be recorded as listed in the full detailed report; refer to Annex A for an example presentation. All settings or selections made during installation that differ from the application's default settings or operating system’s default settings shall be recorded.

The test platform shall be configured for the appropriate connection environment and the information shall be recorded as per full detailed report along with all settings and selections that differ from the installation default configuration.

It shall be verified that the test platform is configured for optimal performance by evaluating system parameters such as hard disk fragmentation and compression, swap memory size, etc. Any settings, changes or optimizations made that differ from the installation default condition shall be recorded.

The test platform is now in the initial installation state. All recorded settings shall be included in the full detailed report.

4.1.2 Initial test state

The test platform shall be restored to the initial installation state before beginning the sequence of tests for each new printing device. Products that are of the same distinct print system can share testing and reports. Two or more products or bundles may be part of a distinct print system when they use the same print mechanism and operating points, and there are no differences that might be expected to affect performance. Devices with differences that could affect performance are not part of the same distinct print system, and are different print systems, even if they use the same print mechanism, and shall not share testing and reports. Record the method used to establish the initial installation state.

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