June 2024

Keypoint Intelligence Federal Agencies Digital Guidelines Initiative Modern Textual Record Verification Testing: Executive Summary of the Canon imageFORMULA DR-G2140 Test Results

Executive Summary

Keypoint Intelligence was commissioned by Canon U.S.A., Inc., to test the Canon imageFORMULA DR-G2140's performance level when scanning the FADGI (Federal Agencies Digital Guidelines Initiative) Still Image Working Group standard test target for records reproduction and digitization. Based on the results of the test, Keypoint Intelligence found that with proper care taken to system cleanliness, the Canon imageFORMULA DR-G2140 consistently and reliably produces digital files that achieve the minimum standards to achieve the Modern Textual Record (MTR) rating for unbound documents on the FADGI image quality rating scale.

CUSTOM TEST REPORT

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What Is FADGI Compliance?

Developed in 2007, the FADGI Still Image Working Group criteria serve as a benchmark to accurately and effectively measure the image quality of historically and culturally significant records and images scanned for digital archival. It incorporates several different test parameters to ensure consistent quality across a myriad of image quality targets scanning equipment, including tone response (luminance), color accuracy and misregistration, white balance error, and noise levels. A FADGI star rating represents the most widely prevalent quality standard for unbound document imaging conversions. The rating scale for FADGI compliance is as follows:

1. ★ – Denotes images are not of sufficient quality for standard information processing techniques, but the image can be used as a reference to locate the original document.

2. ★★ – Applies to images that have informational value only and will not progress to higher ratings due to the nature of their quality.

3. ★★★ – Indicates a good, professional image that can serve almost all use cases as well as be suited for optical character recognition (OCR) and reprint needs.

4. ★★★★ – Represents state-of-the-art image capture capabilities and is suitable for use in all situations.

5. **Modern Textual Records** – Textual records refer to documents created on modern office paper, with well-defined print type and moderate to high contrast between the ink of the text and the paper background. There are no levels for this category—the images either meet the specifications or they don't. The MTR digitization parameters are based on FADGI 3 aim points and tolerant ranges but are less stringent in areas like tone response, sharpening and color definition (unlike FADGI 3, which allows only for color images, grayscale images are permitted under MTR).

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Why Is FADGI Compliance Important for Federal Agencies and Scanning Service Providers?

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In short, FADGI guidelines help standardize best practices and ensure consistent quality control throughout the archival digitization process, making. This makes it easier for future readers to observe the preserved records with great detail and accuracy to the original. Moreover, adherence to FADGI guidelines is beneficial if:

- An organization is responsible for the digitization, management, and quality control of valuable government records.

- An organization is looking to submit digital versions of government records to NARA.

- An organization has already digitized some volume of government records, with plans to eventually submit and preserve them through NARA.

- An organization is utilizing the MTR process with ADF scanners to capture permanent federal records for submission to NARA.

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Methodology & Findings

Keypoint Intelligence technicians confirmed that the Canon imageFORMULA DR-G2140 outputs scans are compliant with FADGI MTR standards. The device was flawless throughout testing, "Passing" for MTR in all 18 readings evaluated.

Technicians scanned 70,000 documents through the Canon imageFORMULA DR-G2140 over the course of 10 days. Each day, image quality was evaluated using GoldenThread NXT and the Device Level target v1.1. The target consists of a flexible base (7" x 10" x 0.02") with a 4" paper leader suitable for sheet-fed scanners which includes a QR code and a serial number. Testing was conducted under ambient conditions of 72°F (+/-5°F) and 45% RH (+/-10%), monitored daily by an Extech digital temperature/humidity recorder. Imaging devices and supplies were acclimated to the conditions for a minimum of 48 hours prior to testing.

Reading	Result	Meter Count	Reading	Result	Meter Count
1	Pass	13,000	11	Pass	61,051
2	Pass	23,000	12	Pass	61,099
3	Pass	25,000	13	Pass	64,300
4	Pass	32,000	14	Pass	64,301
5	Pass	32,001	15	Pass	73,515
6	Pass	42,000	16	Pass	77,250
7	Pass	42,500	17	Pass	77,261
8	Pass	51,890	18	Pass	83,300
9	Pass	51,900			
10	Pass	61,099			

Unit Tested: Canon imageFORMULA DR-G2140 FADGI Edition

Firmware Version: 1.60.000

OS Version: v1.19

Software: CaptureOnTouch Pro v5