

The foregoing description of the present invention has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed, and other modifications and variations may be possible in light of the above teachings. The embodiment was chosen and described in order to best explain the principles of the invention and its practical application to thereby enable others skilled in the art to best utilize the invention in various embodiments and various modifications as are suited to the particular use contemplated. It is intended that the appended claims be construed to include other alternative embodiments of the invention except insofar as limited by the prior art.

What is claimed is:

1. A method of scanning an image using an image scanner, comprising:
 - scanning, through an optical system, a plurality of optical calibration patterns within the scanner;
 - computing a point-spread function from each scanned optical calibration pattern;
 - scanning an image to obtain a scan line of image pixels; and
 - using each point-spread function to modify a corresponding region of the scan line, to remove some aberrations caused by the optical system.
2. The method of claim 1, the step of using each point-spread function further comprising:
 - computing a spatial domain digital kernel from each point spread function; and
 - convolving each digital kernel with a portion of the image pixels corresponding to a region of the scan line.
3. The method of claim 1, the step of using the point-spread function further comprising:
 - iterating an equation that modifies the image pixels to form a new image, with some aberrations, caused by the optical system, removed.
4. The method of claim 1, the step of scanning a plurality of optical calibration patterns further comprising:

- scanning the plurality of optical calibration patterns at an operator selected resolution.
- 5. The method of claim 1, the step of scanning a plurality of optical calibration patterns further comprising:
 - scanning the plurality of optical calibration patterns at an operator selected scanning speed.
- 6. A method of monitoring an optical system in an image scanner, comprising:
 - determining, before scanning an image, a first point-spread function of the optical system;
 - scanning, through the optical system, an image to obtain image pixels;
 - scanning, through the optical system, while scanning the image, at least one of a plurality of optical calibration patterns within the scanner;
 - computing at least part of a second point-spread function from one of the optical calibration patterns that have been scanned during scanning the image; and
 - comparing the second point-spread function to the first point-spread function to determine whether the optical system has changed.
- 7. An image scanner comprising:
 - an optical system, and
 - a plurality of optical targets, within the scanner, each optical target suitable for determining a point spread function for a portion of a field of view of the optical system.
- 8. A image scanner comprising:
 - an optical system; and
 - a plurality of optical targets, within the scanner, each optical target suitable for determining a point spread function for a portion of a field of view of the optical system, each optical target positioned in a location so that each optical target may be used to monitor the point spread function during the scan.

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