

## Recommended FSTC Thresholds Mapped to OrboCAR 6.2X Detector Confidence Score

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In March of 2004, FSTC launched the IQ&U (image quality and usability) initiative to ensure that any check image, regardless of its capture point, meets minimal standard requirements. The focus of this project was to define image quality standards for the financial services industry. The ultimate objective was industry adoption in response to Check 21 and the image capture and exchange process.

### ***FSTC IQU&U Project***

Phase 1 of the initiative focused on understanding the effects of poor quality and defining check image quality defect metrics or measurements. For example, these metrics included “image too light”, “image too dark”, “folded or torn document corner” and several other defined defects.

Phase 2 was completed December 2005. This portion of the project focused on validating the image-quality defect metrics defined in Phase 1. The FSTC then established thresholds to identify images with potential quality and usability problems. A final report was published with recommendations for setting image quality (IQ) metric thresholds to ensure acceptable image quality and usability of items.

### ***Orbograph’s Early IQUA Initiative***

Well before the FSTC study began, Orbograph’s IQUA initiative was launched during the fall of 2003. Orbograph simplified integration and use of its IQ solution by mapping individual IQ test results to a defined range of image scores. The worst quality was given lowest confidence level or score of 0. The best quality image scored 100. The individual scores were then normalized so that a reasonable acceptance threshold could be established regardless of the particular inspection test being conducted. This enables a single value to serve as a threshold for all tests while allowing the system to achieve consistent high levels of performance.

Upon completion of FSTC Phase 1, Orbograph took further steps to expand its set of IQUA tests to include all of the metrics defined by the FSTC. In addition, FSTC metrics were incorporated into existing tests. Finally, several new IQ tests were added.

### ***OrboCAR v6.3x Supports Defined FSTC Metrics***

Orbograph supports the published FSTC IQ metrics in the general release of OrboCAR Centralized IQUA 6.3x. Many Orbograph customers have migrated to v6.3x and enjoy a straightforward implementation of the FSTC Phase 2 threshold recommendations. Others are in various stages of v6.3x integration, testing and qualification and still using version 6.2x in production. These clients may want to be compliant with the FSTC thresholds during the transition period to v6.3x. The table on page 2 provides mapping of FSTC thresholds to the Orbograph score scale for individual IQ inspection tests.

For best results, we recommend upgrading to v6.3x for direct access to the FSTC metric thresholds. In addition, clients will enjoy enhanced functionality with newly developed IQ tests that did not exist in prior versions of OrboCAR Centralized IQUA.

# PRODUCT UPDATE

Orbograph Detector	FSTC Metric/Feature	FSTC Threshold Score	Unit of Measure	Orbograph Threshold Score
too_dark	Image Too Dark: <ul style="list-style-type: none"> <li>for Image Exchange</li> <li>for General Use</li> </ul>	>390 >300	Tenths of a Percent (% of Black Pixels)	20 20
too_bright	Image Too Light: <ul style="list-style-type: none"> <li>for Image Exchange</li> <li>for General Use</li> </ul>	<21 <21	Tenths of a percent (% of Black Pixels)	50 50
min_size	Undersize Image (Height)	<22	Tenths of an inch	0 <sup>1</sup>
max_size	Oversize Image (Height)	>45	Tenths of an inch	100 <sup>2</sup>
min_size	Undersize Image (Width)	<57	Tenths of an inch	100 <sup>3</sup>
max_size	Oversize Image (Width)	>90	Tenths of an inch	100 <sup>4</sup>
n/a in v6.2x	Front-Rear Dimension Mismatch (Width)	>4	Tenths of a percent	n/a
n/a in v6.2x	Front-Rear Dimension Mismatch (Height)	>5	Tenths of a percent	n/a
n/a in v6.2x	Compression Size Above (BW Only)	>90000	Bytes	n/a
n/a in v6.2x	Compression Size Below (BW Only)	<600	Bytes	n/a
streak	Largest Streak Height	>24	Pixel % in scan line	80
streak	Number of Streaks	>3	Streak count	90
n/a in v6.2x	Spot Noise (BW Only)	>575	Count of spot noise	n/a
skew	Skew Angle(Lower/Negative) Skew Angle (Higher/Positive)	<-30 >30	Tenths of a degree	10 10

- <sup>1</sup>Our internal threshold is 22.5. We'll consider making the score scale continuous in the next release as opposed to the binary as it is today.
- <sup>2</sup>Our internal threshold is slightly above 55. We'll consider making the score scale continuous in the next release as opposed to the binary as it is today. The metric values belonging the range of 45 to 55 will get scored 100, those over 55 – 0.
- <sup>3</sup>Our internal threshold is 50. We'll consider making the score scale continuous in the next release as opposed to the binary as it is today. The metric values belonging the range of 50 to 57 will get scored 100, those under 50 – 0.
- <sup>4</sup>Our internal threshold is 115. We'll consider making the score scale continuous in the next release as opposed to the binary as it is today. The metric values belonging the range of 90 to 115 will get scored 100, those over 115 – 0.

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