## AOI

# How to Improve Cycle Time

*Rev. 1.0*
*Date 04/16/2017*

## Revision History

| Revision No. | Date | Description | Written by |
|---|---|---|---|
| 1.0 | 2017.04.16 | •    Create a new document | Soowon Lee |
|  |  |  |  |
|  |  |  |  |

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# Purpose

The options described in this document can be tested and/or used to improve the processing speed for faster cycle time.

This document is written based on **AOIGUI** 2.7.0.0.

# Terminology/Abbreviation

| Terms / Abbreviations | Description |
|---|---|
| N/A | |
| | |
| | |
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## Table of Contents

# 1. Overview

**Halcon** related options in the **AOIConfig** can be adjusted in different combinations to optimize the processing time.

R&D (VISION) is conducting internal testing to find out the best configurations as there are many factors which have an effect on processing time. Adjustment of below options have been proven effect in the field and have improved the processing speed drastically.

Please collect FOV logs (before and after of changing options) for comparative analysis when testing the options described in this document.

# 2. Changing AOIConfig Settings

The default settings of **Halcon Initialize** section are as follows. In order to test the optimization of cycle time, adjust the options from default to a different value.



Figure. Default Settings

1. Go to **AOIConfig** > **Halcon Initialize** section.

2. Adjust the options described below for processing optimization.

- **Halcon Global Memory Cache**
  - **Idle**: Default (Without Global Cache of Halcon)
  - **Exclusive**: With Global Cache of Halcon (More stable under multi-thread environment since caches are separated on each component.)

- **Halcon Temporary Memory Cache**
  - **False**: Default
  - **True**: Activating temporary cache could decrease the number of memory reassignment & Release.

- **Halcon Image Cache Capacity**
  - Memory Use (Helpful when FOV size is big.)
  - 4 (Default) ~ 512 (Max)

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# 3. Result after Changing Options (Example)

You will see how the inspection time has been improved after changing the options in **AOIConfig** as follows.

- Changed Options in **AOIConfig**(Example)

| Halcon Initilize | |
|---|---|
| Halcon Global Memory Cache | exclusive |
| Halcon Temporary Memory Cache | True |
| Halcon Image Cache Capacity (1MB ~ 512MB) | 512 |

- Inspection Time Comparison (Before & After)
  - Machine Type: AOI 8M / 20 um / 9 Way

| Jobfile Info | Inspection Time (Sec) | |
|---|---|---|
| | Before (Without Halcon) | After (With Halcon) |
| 1904 Comp / 25 FOV | 35 | **23** |
| 2632 Comp / 25 FOV | 29 | **22** |
| 552 Comp / 13 FOV | 15 | **12** |
| 438 Comp / 23 FOV | 12 | **7** |