*Sensors and Digitization Laboratory no- 5 Report*

*Moving object imaging*

Center Universitaire Condorcet, University of Burgundy

MSc in MSCV

Alkan Omer Ozan

Daniel Sileshi Asfaw

GrTP1A

November 26, 2013



**Moving object Imaging**

***Objectives:***

The objective of this laboratory was to study moving object imaging techniques. Specifically,

* Capture images of moving object at different speed.
* Study the parameters affecting moving object imaging techniques.
* Properly calibrate our camera to get real image of the moving object.
* affect the exposure time of line Scanning camera using external triggering

***Equipment Used:***

PC Computer

Frame Grabber : IC-PCI DIG Module (IMAGING TECHNOLOGY)

Digital Camera: DALSA S2-1X-02K40 *line scanner* camera.

50 mm Lens :PENTAX YF5028A-02

Video Cables

12V Power Supply

Moving Industrial Parts

Signal Generator

Oscilloscope

***Software***

Cam Expert - TELEDYNE DALSA

***Documentation Used:***

User Manual & Brochure for camera & frame grabber

Lecture notes

***Preliminary***

This laboratory session has two experiments. The first experiment was grabbing image of a moving object without using any external triggering system and the second was using external triggering to grab image of an object at different triggering frequencies

***Experiment-I***

In part of the lab session, we studies how to capture image of a moving object without using external triggers. Line camera is connected to the computer. Then , we have switched on the back light of the imaging plane and moving industrial part motor. After we have launched the "Cam Expert" software on the computer to grab an image. We used the default line scanning parameters of the software.

To capture a good image we have adjusted the position of the camera, aperture and focus settings of the camera.



***Experiment-II***

In this part of the lab we used an external trigger to grab an image. To do this the triggering frequency from the signal generator is adjusted by connecting it with oscilloscope. Then we connect the output of the signal generator to the computer. Since we were using the internal triggering mode for experiment-I, we changed the configuration to external triggering mode by changing the triggering---------------------------------------