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## ICS Engineering Manual

FOR AN INVENTORY SYSTEM WITH JIRA AND EPICS

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## 1 Overview

There are infinite ways to develop and maintain an inventory system. However, this inventory is the unique and **temporary** solution for the ICS Tuna Lab. This inventory system is designed to minimize resources when an engineer register bulky items to the existent JIRA ICS HW&I group inventory task. Therefore, it does **NOT** provide any fancy and beautiful ways to interact with users, **BUT** does provide the minimal tool to monitor and track any equipment in ICS, ESS, and any IK partner. And the system only provide the following features :

- Do stock an item to JIRA, and do Add-and-Print its barcodes.
- Do stock an item to JIRA, and do Add-and-Print its barcodes.
- Delete an item from JIRA.
- Print the existent (created) label (in case, the printer doesn't work properly)



**Figure 1** CS-Studio User Interface Screen Examples.

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## 1.1 Inventory Workflow

### 1.1.1 How to stock an item at the first time to JIRA

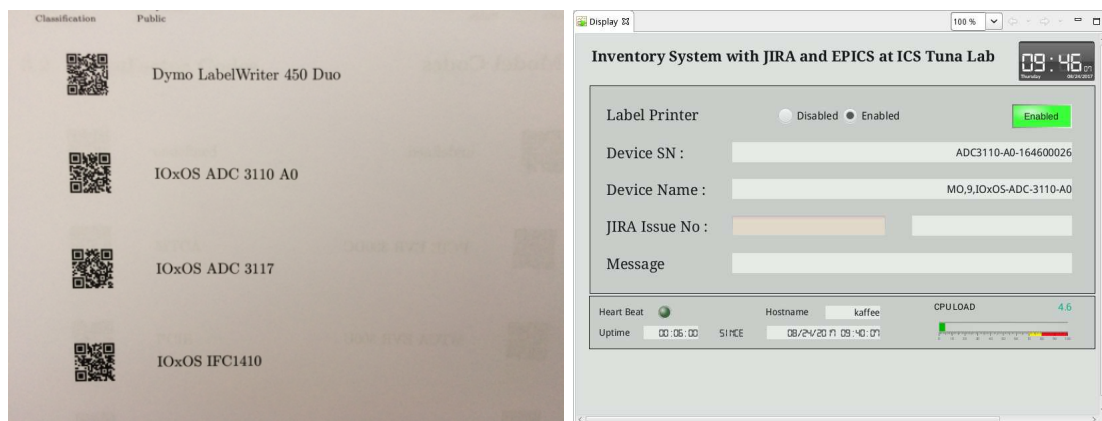
The mandatory steps are defined the following procedures :

**Scan the Serial Number on the equipment with the Xenon 190x barcode scanner.**



**Figure 2** User Interface Screen Example after the serial number scan.

**Scan one of 3.3 Model Codes in the manual with the Xenon 190x scanner.**

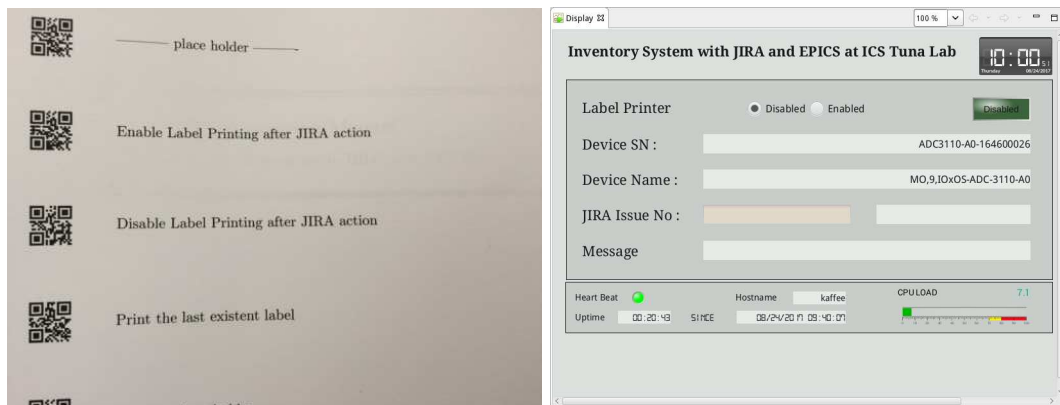


**Figure 3** User Interface Screen Example after the Model Name scan.

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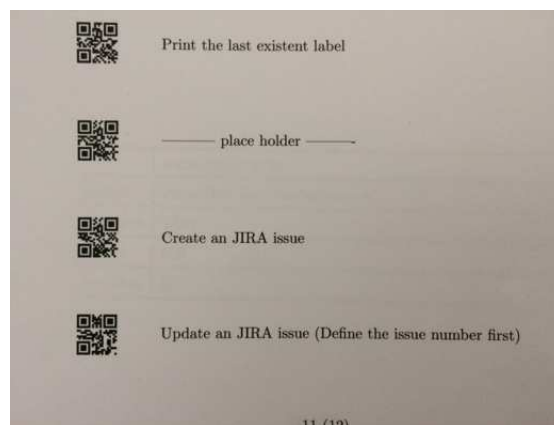
**Both case in below, the created labels are attached in the JIRA issue.**

1. Scan Enable Label Printing after JIRA action if one wants to print labels (Default)
2. Scan Disable Label Printing after JIRA action if one wants not print labels



**Figure 4** User Interface Screen Example for Enable and Disable Labels

**Scan Create an JIRA issue in the manual**



**Figure 5** User Interface Screen Example after the Create an JIRA scan.

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**Attach two barcodes in the reserved box, an equipment, or both.**



**Figure 6** Equipment with labels. The small one should be trimmed properly.

### 1.1.2 How to add and print barcodes for an Item which has registered in JIRA

1. Define the TAG number which one wants to delete it via CS-Studio User Interface or caput  
caput ICSLAB:IssueNumber TAG-XXX
2. Scan the Serial Number on the equipment with the Xenon 190x barcode scanner.
3. Scan Model Name in the manual with the Xenon 190x scanner.
4. Both case in below, the updated labels are attached in the JIRA issue.
  - a) Scan Enable Label Printing after JIRA action if one wants to print the updated label (Default)
  - b) Scan Disable Label Printing after JIRA action if one wants not print the updated label
5. Scan Update an JIRA issue in the engineering manual

### 1.1.3 How to delete the existent Item

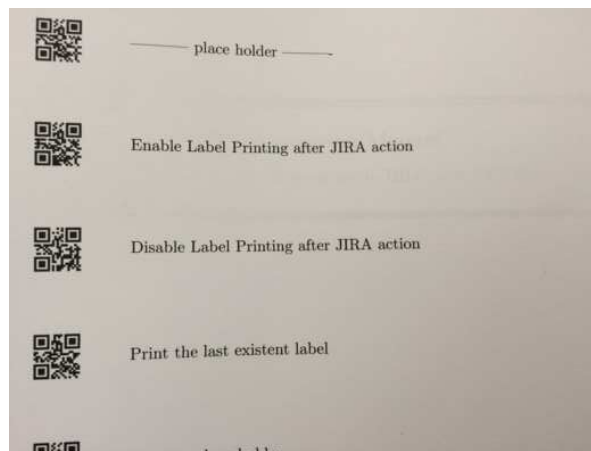
1. Define the TAG number which one wants to delete it via CS-Studio User Interface or caput  
caput ICSLAB:IssueNumber TAG-XXX
2. Scan Delete an JIRA issue Barcode in the manual with the Xenon 190x barcode scanner.

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#### 1.1.4 Print the existent labels

In case, there is the printer issue, for example, print only one of two labels, not responding, and so on.

1. Please check the printer status at <http://localhost:631/> and resolve it. Note that one should know the basic CUPS configuration.
2. Print the existent label by scanning the barcode (Print the last existent label) in the manual. Note that this action will print only the recent created labels.



**Figure 7** Bar code in the manual for the Print the Existent Label.

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## 1.2 Components

### 1.2.1 Hardware

- Honeywell Xenon 1900g (Wire) or 1902g (Wireless) Barcode scanner
- DYMO LabelWriter 450 Duo

### 1.2.2 Software

- Linux OS (tested with Debian 8)
- EPICS IOC <https://github.com/jeonghanlee/hw-xenon1900>
- JIRA <https://jira.esss.lu.se/projects/TAG/summary>
- DYMO LabelWriter 450 Duo CUP Driver  
<http://www.dymo.com/en-US/dymo-label-sdk-and-cups-drivers-for-linux-dymo-label-sdk-cups-linux-p--1>

## 1.3 Troubleshooting



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## 2 Honeywell Xenon Scanners 1900 and 1902g

Note that there are different procedure to setup Xenon 1900 corded scanner and Xenon 1902g cordless scanner. Please consult each manual in detail.

### 2.1 Basic Configuration



**Figure 8** Default Settings.



**Figure 9** USB Serial Setting.



**Figure 10** Silent Mode for Corded Scanner.



**Figure 11** Silent Mode for Cordless Scanner.

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## 3 Predefined Bar Codes

### 3.1 Model Codes



undefined



MRF PCIE EVR 300DC



MRF MTCA EVR 300U



MRF MTCA EVG 300



MRF IFB 300



MRF VME-EVG-230



MRF VME-FOUT-12



MRF CPCI-FOUT-12

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MRF CPCI-EVG-230



Shroff MTCA 3U Crate



Shroff MTCA 9U Crate



Concurrent MTCA CPU



NAT MTCA Power Module



NAT MTCA MCH PHYS



MTCA 2 U Crate



Wiener MTCA Power Module



IOxOS IFC1410

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IOxOS IFC1420



IOxOS ADC 3110 A0



IOxOS ADC 3117



IOxOS DIO 3118



IOxOS ADC 3112



Struck SIS8300L2



Struck SIS8300KU



Struck SIS8900



Raritan PDU PX3-5190R

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Raritan PDU PX3-5260R



Raritan PDU PX3-5260V



Dell R230



Adlink MVP-6021



Dell R330



Beckhoff CX5130-0100



Lenovo Thinkpad W540



Raritan KVM DKX3-808



CPCI 3U Crate

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CPCI 2U Crate



CPCI EKF CPU



Barcode Scanner Xenon 190x



Dymo LabelWriter 450 Duo



MOXA NPORT 6650



MEINBURG LANTIME M1000



RS SMA 100A



APC Smart UPS 1000

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## 4 Action Bar Codes



Clear all scanned PVs



————— place holder —————



Enable Label Printing after JIRA action



Disable Label Printing after JIRA action



Print the last existent label



————— place holder —————



Create an JIRA issue



Update an JIRA issue (Define the issue number first)

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Delete an JIRA issue (Define the issue number first)

## 5 Summary

The system has the limited functionality for the usage of ICS Tuna Lab, since ICS would like to save at least 5 mins while stocking an equipment into the existent JIRA project. The system fulfilled the early and limited requirement, i.e., saving 5 mins per an equipment. Therefore, this development was ended. The system is now running in the ICS Lab.

However, it may be the good starting point if one wants to implement the system with any relational database, which is more flexible than the restricted JIRA project, which cannot be modified with the current permission.

If one has any questions and comments on this system, please contact the developer through [han.lee@esss.se](mailto:han.lee@esss.se).