Project Schedule

Thema : *Prevent Mixing at Taping Process with Marking Inspection*
Prepared By : *Zulhisham Tan*
Date : *10th May 2011*

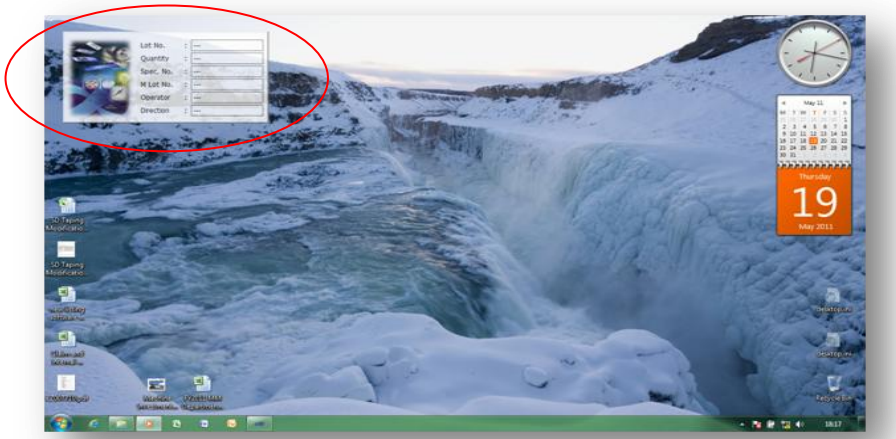
No.	To Do	May 2011																				
		10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1.	Request Database from I.T. to retrieve mother																						
	Lot No. based on Taping Lot No.																						
2.	Migrate Marking Database to Server																						
3.	Software (PC) Construction																						
4.	Wiring modification																						
5.	Software Test & Debug																						
6.	Test Run & Review																						

* Note : Task Completed
In Progress

Requirement

- Special function for Lot inject
- To be to detect Week Code Jumping

Taping with Marking Inspection System Integration

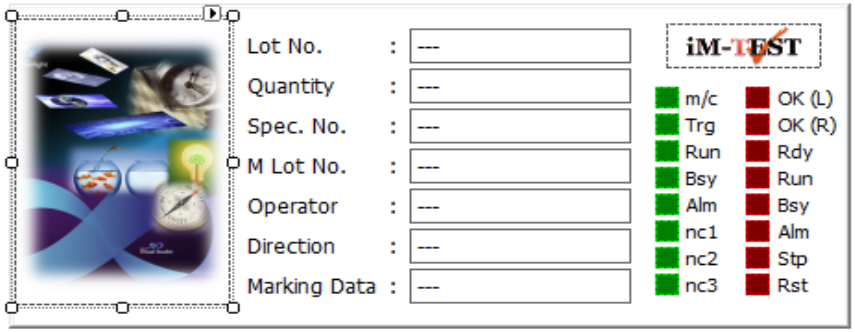


Application Name	: **TapMarkInsp**
Outlook	: - 80% Visibility. Optional Setting available. - Located 30,30 pixels from Top-Left corner the screen. - Appear as Top-Most windows.
Characteristic	: A program which run as a background tasks to monitor Keyboard and mouse event. The program is created to capture the Lot number and some others information which being entered into the system. It is an interface between the Taping machine and the Vision Control system. The program responsible on signal interfacing between the machine and the Vision control system. The responsibility were to select Inspection Scene, triggering the Vision Control, Data Judgment as well as signalling the machine on 'GO'/'NoGO' pattern. A set of data is log into the system database for future data tracking in order to address certain issue.
Operation Format	: - The 'Auto Run' operation of the machine will be interlocked whenever the application fail to capture Lot Data which has being entered in to the system. - The 'Auto Run' operation will also be interuppted if the marking data inspection judgment is fail. - No any additonal operation were needed to handle the **TapMarkInsp** system. Everything is done automatically.
Database	: Marking data will be retrieved from the machine server located at I.T. room. The database is in Microsoft Access format. Data were retrieve using SQL command.
Deployment	: The appilcation software is design to deploy via the network using IIS Server. Through the new deployment concept, the verification of iM-Test Software control system is bypassed since the versioning of the software is always varified through the server. Newer version of the application software will automatically updated whenever a newer version of the application software is uploaded to the server.

The Modification Concept

1. The 'TapMarkInsp' is development and setup into the Taping machine's PC. The application is required Windows XP with Service Pack 3 to run. It is complience to Windows 7 32bits as well as 64 bits.

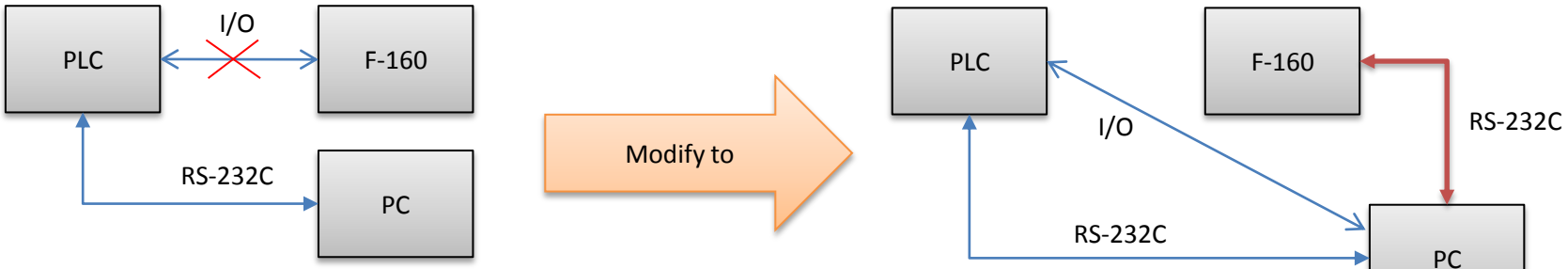
   Please refer to '*Taping with Marking Inspection System Integration* ' for its outlook and characteristic. No additional operation were needed to operate the program.



2. A USB Digital I/O card is attached to the PC. Listed below is the details of the USB-DIO card. The USB-DIO driver is installed to the PC of the machine. It is being access by the 'TapMarkInsp'.

   Model : **DIO-8/8B-UBC**
   Maker : **Y2 Coporation**
   Qty : **1**
   Reference : www.y2c.co.jp

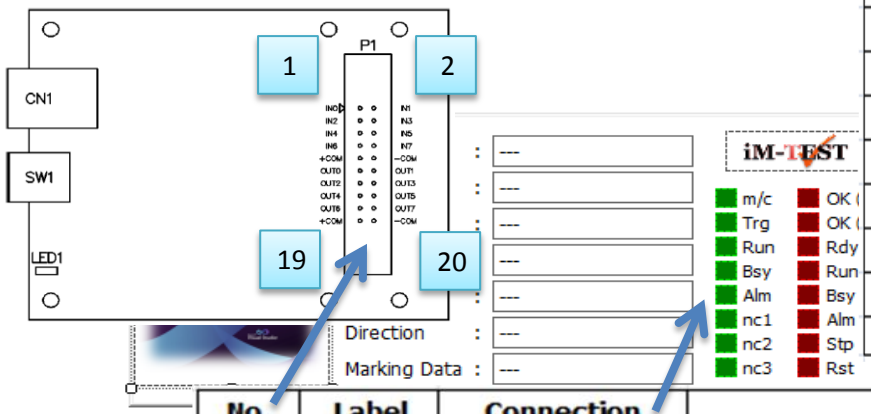
3. Eletrical wiring is being modify. As illustrated in the block disgram (1) below, wires that are connected from the PLC to the Vision System (F-160) is being disconnected. It is attached to the new USB-DIO card as shown block diagram (2). The connection is refer to the wiring diagram shown in Figure 1.



Block Diagram 1

Block Diagram 2

I/O bits between PC, PLC & camera unit



No.	Pin	Signal	Function	INPUT (To PC)	OUTPUT (From PC)	Remark
1	A1	RESET	Restarts the controller		O	To Camera
2	A2	STEP	Measurement trigger signal		O	To Camera
3	A12	DO0	Data Output (For L direction, OK='ON')		O	Result of camera Judgement
4	B12	DO1	Data Output (For R direction, OK='ON')		O	
5	B9	ERROR	ON when error occurs	O		From Camera
6	A9	RUN	ON while in Run mode	O		From Camera
7	A10	BUSY	ON during processing	O		From Camera
8	-	PC READY	ON when Barcode scanning complete		O	To PLC

No.	Label	Connection	Description
1.	IN0	m/c	From m/c : Running Status
2.	IN1	Trg	From m/c : Triggering Vision Inspection
3.	IN2	Run	From F160 : Running Status
4.	IN3	Bsy	From F160 : Busy Status
5.	IN4	Alm	From F160 : Alarm Status
6.	IN5	nc1	From m/c : To Reset Vision System
7.	IN6	nc2	From m/c : To Change Scene
8.	IN7	nc3	No Connect 1
9.	+COM	P24	To P24
10.	-COM	H24	To H24
11.	OUT0	OK -L	To m/c : Judgment OK/NG for L Direction
12.	OUT1	OK -R	To m/c : Judgment OK/NG for R Direction
13.	OUT2	Rdy	To m/c : System Ready
14.	OUT3	Run	To m/c : Vision Status
15.	OUT4	Bsy	To m/c : Vision Status
16.	OUT5	Alm	To m/c : Vision Status
17.	OUT6	Stp	To F160 : Start Measure
18.	OUT7	Rst	To F160 : Reset F-160
19.	+COM	P24	To P24
20.	-COM	H24	To H24

Figure 1

4. As shown in the block diafram (2), the PC required 2 serial communication. The 1st comm. Port has been occupied by the original PC program. As such, the 2nd comm. Port were needed to be added into the system. If the PC consists of 2 comm. Port then you may ignore this step otherwise you may consider a USB-RS232 converter install to the system.

5. At Laser Marking machine, the database were set to local drive as default. Hence, it is necessary to consider a commercial desktop PC to act as server. Make a sharing folder to public, and then locate the Laser Marking database into the server. You need to change the Laser Marking Barcode system setting to access to the database at the server.

Merits

- ✓ No software modification is needed to be to original PC Application.
- ✓ No additional operation were needed.
- ✓ Cycle time remain unchanged.
- ✓ Low modification cost.
- ✓ Able to complete within 3 to 4 days.
- ✓ PE/PM no longer needed to control IMI which would be database for the system to select scene file.
- ✓ Able to control week code jumping.
- ✓ Provide raw data for future reference.
- ✓ CPU resources were keep to minimum in order to give space to others application such as anti-virus program to effectively protect the system.

System Integration

1. Mr. Tee Tai Heng - Setting camera, Wiring Modification, Confirm system function.
2. Zulhisham Tan - Development 'TapMarkInsp' application, Modified Laser Marking Database access.