

Intelligent Feeder System

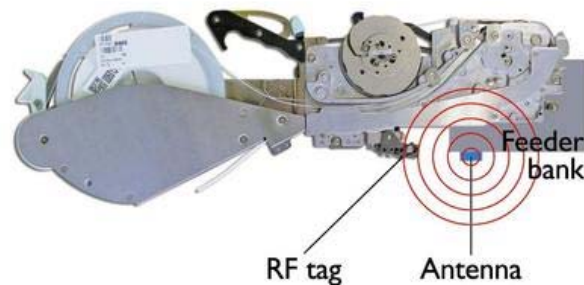
Introduction

Intelligent feeders provide additional functionality to simplify offline feeder setup, verify component placement, and record traceability data. Juki's IFS-X2 system sets the standard for ease of use and flexibility. Using RFID technology, IFS-X2 provides graphically aided offline setup, real-time monitoring and data collection during production, and critical traceability data. Other features of IFS-X2 are:

- Offline Setup Validation – improves up-time
- Low-Level Parts Warning – for timely feeder replenishment
- Material Tracking and Reservation – enhanced component visibility
- Closed-Loop Feeder System – guarantees proper feeder setup

RFID System

IFS-X2 uses a patented, contactless, RFID smart feeder technology that is upgradeable and maintenance free. This feeder intelligence is accessible in and out of the placement machine, on offline trolleys, as well as feeder storage carts. As a result, all feeders and the associated components are always visible no matter where they are located in your factory. This enables a much greater level of control over your material management and global manufacturing process.



Feeder using RFID Technology

The first step in using IFS-X2 is to link the component to a feeder. This is done by scanning the component's barcode and the barcode of the feeder it is placed on. The next step is to place the feeders onto the feeder banks. Feeder banks are connected to a Programming Station where they can be monitored by the IFS-X2 system. As the operator places the feeders, the system confirms that the correct part number is loaded in each location, according to the production file that has been selected. A colored graphical display shows various statuses of the feeders, such as correct, missing, wrong location, etc.

The placement machine checks that all feeders are present, verified, and in the correct location before production is started. Any invalid feeders are noted and will not be used during production. When a feeder is removed for any reason, it is flagged to be re-verified before the machine will start to use it again. This prevents errors when an operator replaces a reel during a production run.

Cogiscan Platform - Version 5.6.2 i85E

Cogiscan Job Setup DEMO LINE

Feeder Bank Setup

Batch ID: AAA1
 Product PN: TEST
 Quantity: 10
 Location: M01 - F
 Feeder Bank ID: ATE

DS01

M01
 F 1.1%

ATE

Slot ID	Required PN	Raw Material ID	Feeder ID	Feeder Type	Current Location	Quantity	
52	C2			12MM TAPE JUKI		40	Add
55	TR2			08MM TAPE JUKI		80	Add
61	TR1			08MM TAPE JUKI		80	Add
63	C1			16MM TAPE JUKI		40	Add
67	VR			12MM TAPE JUKI		40	Add
70	SOP-16P			16MM TAPE JUKI		20	Add
57	1005-4	1005-4.S0001		08MM TAPE JUKI		320	Add
73	PLCC-44P	2.S0001		32MM TAPE JUKI		10	Add
59	1005-1	1.S0004	TF003	08MM TAPE JUKI		320	OK

Node: IFSX2SERVER
 10/27/2006 2:15 PM

Job Verification Window

Traceability

Traceability is the collection and recording of component lot codes placed on each circuit board. With this option, the machines will scan a 1D or 2D barcode on each circuit board and then record the lot number of each part placed by reference designator. In cases where more than one feeder is used for the same part number, either because multiple feeders were used for efficiency or because a reel was replaced during production, IFS-X2 will record the correct lot number for each reference designator. This data is saved to a database where reports and queries can be run at any time.

Product Route History for product V-003505L1 - Mozilla Firefox

Eichier Edition Affichage Aller à Marque-pages Outils ?

Cogiscan
Smart Material Control

Product Traceability Report
Generated on 2006-01-06 19:08:40

Lot Number:	V-003505L1	Product Type:	PRODUCT
Part Number:	003505	Current Operation:	Not in WIP

Timestamp	Event type	Operation	Route	Tool	Rem. FL	User ID
2006-01-06 18:39:23	END OPER	INSPECTION	NON VALIDATED		16 h	JSMITH
2006-01-06 18:39:02	START OPER	INSPECTION	NON VALIDATED		16 h 5 m	JSMITH
2006-01-06 18:37:05	END OPER	SHAVING	NON VALIDATED	SHAVE-001	16 h 20 m	OPERATOR
2006-01-06 18:36:59	START OPER	SHAVING	NON VALIDATED	SHAVE-001	16 h 25 m	OPERATOR
2006-01-06 18:34:55	END OPER	SMT BOTTOM	NON VALIDATED	FP-PLACE-003	16 h 30 m	OPERATOR
2006-01-06 18:34:50	START OPER	SMT BOTTOM	NON VALIDATED	FP-PLACE-003	16 h 35 m	OPERATOR
2006-01-06 18:33:22	END OPER	SMT TOP	NON VALIDATED	FP-PLACE-001	16 h 40 m	OPERATOR
2006-01-06 18:33:04	START OPER	SMT TOP	NON VALIDATED	FP-PLACE-001	16 h 40 m	OPERATOR
2006-01-06 18:32:34	RELEASE PRODUCT	SMT TOP	NON VALIDATED	FP-PLACE-001	16 h 40 m	OPERATOR

Raw Materials used at operation SMT TOP on 2006-01-06 18:32:34

Part Number	Lot Number	Tool	Location	Rem.FL	Ref. ID
61A0152	61A0152L2.S0001	FP-PLACE-001	R-12-25		R14; T18; 45W
28H2041	28H2041W34.S0001	FP-PLACE-001	R-17-1		
PXH20	PXH20XS3.S0005	FP-PLACE-001	F-58-1		
2006-01-06 18:34:55					
61A0152	61A0152L5.S0021	FP-PLACE-001	F-33		R55; T18

Raw Materials used at operation SMT BOTTOM on 2006-01-06 18:34:55

Part Number	Lot Number	Tool	Location	Rem.FL	Ref. ID
61A0152	61A0152L5.S0025	FP-PLACE-003	F-33		
28H2041	28H2041W34.S0133	FP-PLACE-003	R-12-25		R13; T75; W33; W32; S13; Y77

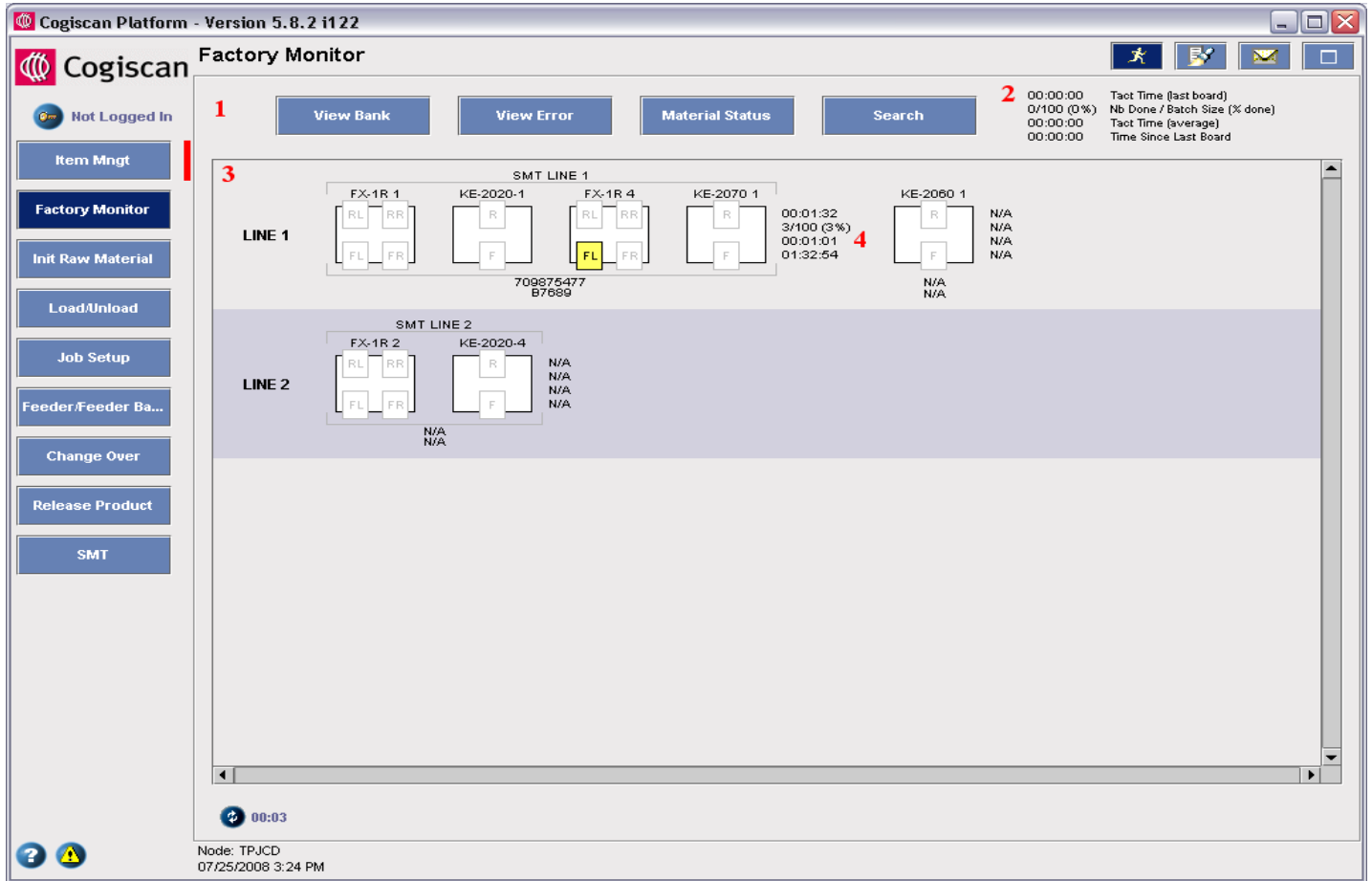
New Report

Terminé

Product Traceability Report

Flexibility

- A single IFS-X2 server is used for the entire factory. It is possible to have some lines, or even individual machines, intelligent, while others are not. Intelligent feeders can be used on non-intelligent machines. Adding more machines or lines is a simple configuration change.
- Numerous operation settings to customize for each application
- Ability to support other SMT line equipment such as screen printers or manual load stations



IFS-X2 Factory Monitor

Options are available for:

- MSD control – moisture sensitive devices are setup with their specific MSD level and “open time” is recorded automatically. The IFS-X2 system will display warnings when the materials are getting close to their exposure limit and errors when materials are expired. The machines will not pick components that have expired.
- Traceability – Barcode scanners mounted to the machine’s placement head scan either 1D or 2D
- External software communications – for communications with existing ERP software
- Maintenance Module – software to set and track maintenance requirements and operations for each feeder
- Additional feeder setup or receiving stations
- Intelligent feeder or reel storage – feeder stored with reels loaded can be quickly located for faster setup. Reel stock locations can be displayed to eliminate wasted time searching.

IFS-X2 Barcode

To complement IFS-X2, Juki offers a barcode based system that removes the RFID tags from the feeders and requires the user to barcode each individual feeder placement per job. While the IFS-X2 barcode solution requires more user intervention, it is a more cost effective solution and is fully upgradeable to a full blown RFID based IFS-X2 solution. IFS-X2 barcode solutions are also compatible with older vintage Juki machines which allow the user to have full IFS-X2 support in the entire factory.

Compatibility

IFS-X2 RFID is compatible with the following Juki models:

KE Series 2050/2060/2050R/2060R/2055R/2070/2080 – fully compatible

All FX series – fully compatible

All 700 series machines, KE-2010, KE-2020, KE-2030, KE-2040 – requires optional Product Flow Controllers. Traceability by reference designator is not available.

For more information please contact Juki Automation Systems at:

507 Airport Blvd.
Morrisville, NC 27560
Phone: 919-460-0111
Email: sales@jas-smt.com