RF Feeder System

Verification system utilizing a wireless IC tag

Target Machines : XP-142E/143E, XP-242E/243E

■ Elimination of Loading Error

The RF Feeder System prevents operator loading errors by checking the feeder position and performing verification for the feeder and parts. All of this is done automatically when the feeder is set in the machine.

■ Retrofit of Current Feeders

Feeders currently used with the XP Series can be retrofitted for use with the RF Feeder System simply by attaching an RFID tag, allowing the efficient use of current resources. It is not necessary to purchase new feeders. Retrofitted feeders can be used with Fujitrax.
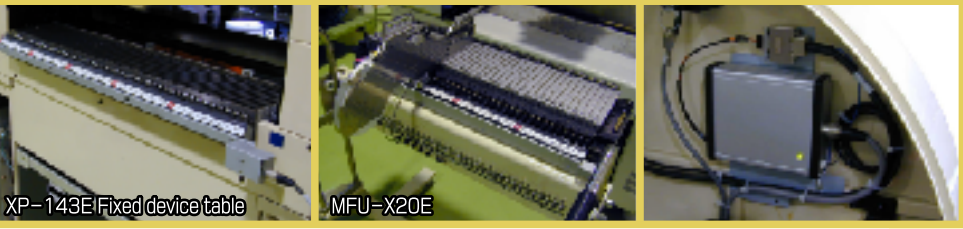
∗For the XP-242E/243E
W32 paper tape feeders (IPC/BFC), W104/W120 motor feeders, W72 splicing motor feeders and stick feeders (35°/45°) can be supported with special modification.
Vibratory feeders and horizontal stick feeders are not supported.

■ RF Feeder System Components

RFID Tag :
Compact tag containing memory

RFID Tag Attachment Bracket : Bracket for attaching the RFID tag to the feeder
(the type of bracket varies depending on the feeder type

XP-143E Fixed device table

MFU-X20E

RF Antenna : Antenna for receiving RFID signals
(attached to the feeder pallet)

Reader Controller∗ :
Transmits data read from the RFID tag
to the machine

∗ 2 reader controllers are required for XP-142E/143E
machines with feeder pallets on both sides.
1 reader controller is required for XP-142E/143E
machines with feeder pallets on one side and for
XP-242E/243E machines.

∗ Cogiscan and ⬛ are registered trademarks of Cogiscan Inc.

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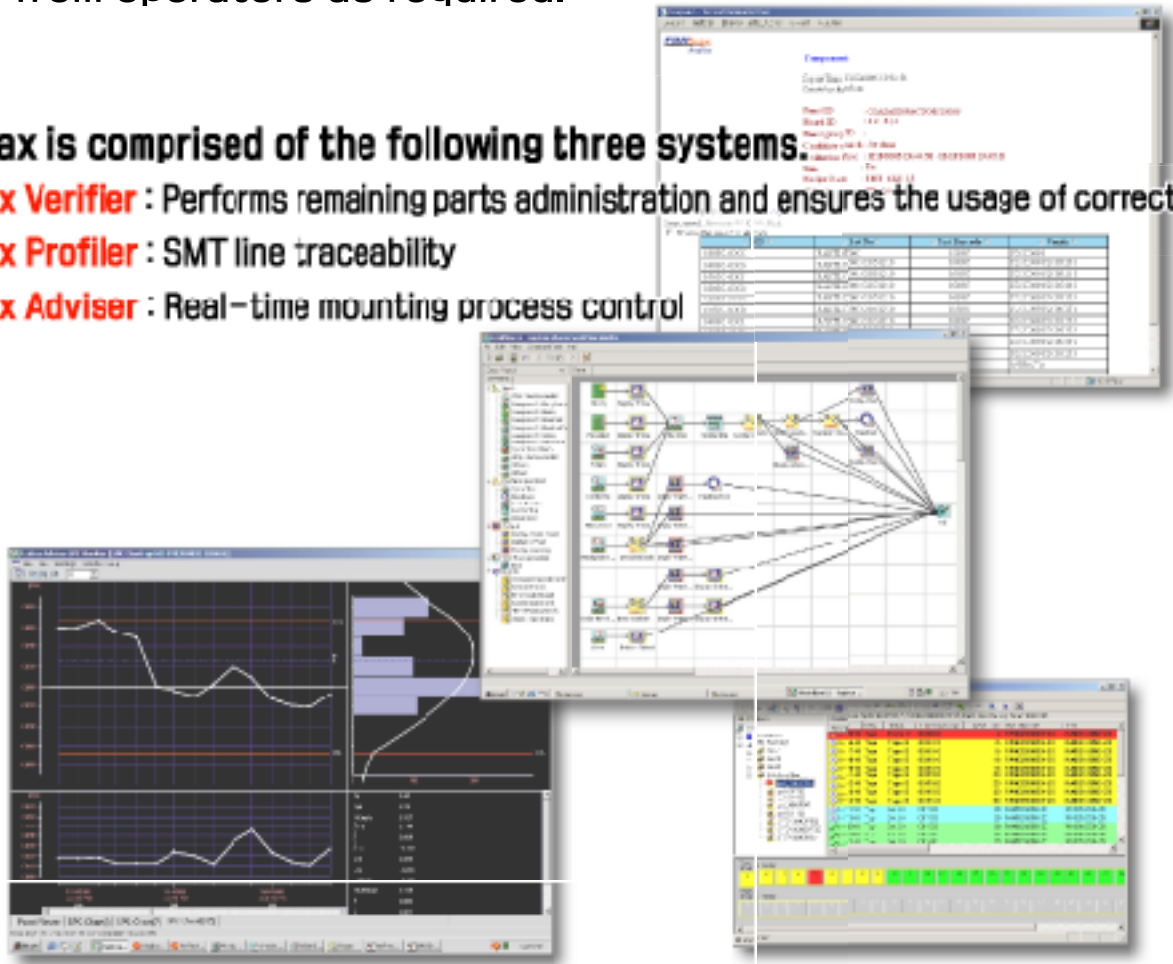## Assembly Process Management System

The Fujitrax system has been designed to realize a high quality and highly efficient production line with a wide range of features including machine/parts/feeder administration, changeover support, and collection and analysis of production data in real-time, enabling quick action from operators as required.

Fujitrax is comprised of the following three systems.

Fujitrax Verifier : Performs remaining parts administration and ensures the usage of correct parts.
Fujitrax Profiler : SMT line traceability
Fujitrax Adviser : Real-time mounting process control

Operating Requirements

Operating environment		Verifier/Profiler DB	Verifier Server	Profiler Server	Adviser Server
OS	Windows 2000 Professional/Server (Japanese and English Editions)∗1	Fujitrax V3.00 or later	←	←	Fujitrax V3.01 or later
	Windows XP Professional (Japanese and English Editions)∗2	Fujitrax V3.00 or later	←	←	Fujitrax V3.01 or later
	Windows Server 2003 Standard Edition (Japanese and English Editions)	Fujitrax V3.00 or later	←	←	Fujitrax V3.01 or later
	Windows Server 2003 Standard Edition SP1 (Japanese and English Editions)	Fujitrax V3.06 or later	←	←	Fujitrax V3.01 or later
	Windows Server 2003 Standard Edition R2 (Japanese and English Editions)	Fujitrax V3.11 or later	←	←	Fujitrax V3.01 or later
Internet Explorer		6.0 SP1 or later	←	←	←
CPU		Pentium4 2.4GHz or more	←	←	←
Memory		2 GB or more	1 GB or more	←	←
Free hard disk space		100 GB or more	40 GB or more	←	←

∗1: Use Service Pack 4 or later. ∗2: Use Service Pack 1 or later.
∗ Windows and Internet Explorer are trademarks or registered trademarks of Microsoft Corporation, U.S.A. Pentium is a registered trademark of Intel Corporation.
All other product names are the trademarks or registered trademarks of their respective owners.

Fujitrax Verifier — Remaining parts administration and parts misload prevention
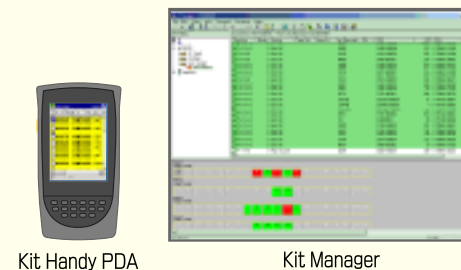
■ Parts Verification

The system checks whether the actual feeder positions and parts set at the machine by the operator match the settings in the job.
When using Fuji Intelligent Feeders at the NXT/AIM, or the RF Feeder System at XP Type 2/3 machines, the machine automatically verifies the feeder positions and parts when feeders are set, preventing incorrect parts placement resulting from misloading of feeders (parts) at the machine.

Cogiscan

■ Parts out warning function (Remaining Parts Administration)

Fujitrax Verifier monitors the status of all parts in the factory in real-time. Parts out warnings can be output to a PDA so that operators can monitor warnings from any location, and are able to follow a precise parts replenishment schedule.
By performing parts replenishment before parts run out completely, line stoppages can be prevented and the machine utilization rate is improved.
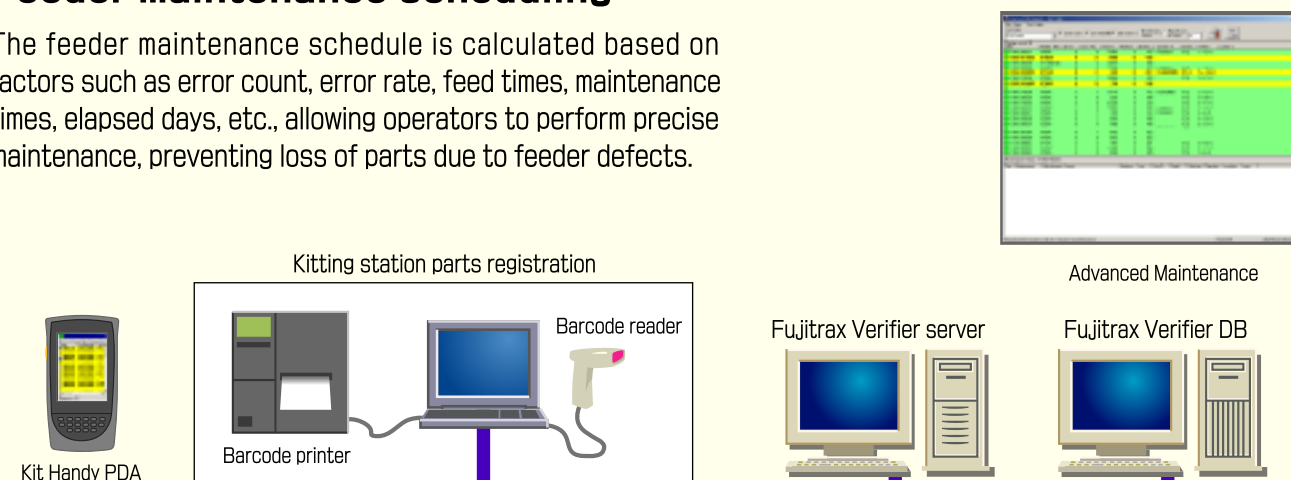
Kit Handy PDA   Kit Manager

■ Changeover support function (Batch feeder exchange)

Parts for the next job can be verified while the current job is in progress. The PCU can be used to change all feeders on a pallet at once, reducing the changeover time.
Moreover, the Auto Job Change function performs automatic job changeover following scanning of a barcode affixed to each panel.

External Changeover   PCU for the NXT

■ Feeder maintenance scheduling

The feeder maintenance schedule is calculated based on factors such as error count, error rate, feed times, maintenance times, elapsed days, etc., allowing operators to perform precise maintenance, preventing loss of parts due to feeder defects.

Kitting station parts registration

Barcode reader

Kit Handy PDA   Barcode printer

Advanced Maintenance

Fujitrax Verifier server   Fujitrax Verifier DB

Fujitrax Profiler — SMT line traceability
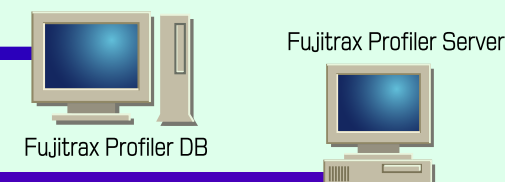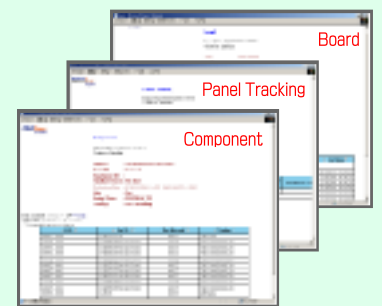
■ Trace data acquisition

Fujitrax acquires and manages machine and parts data used for each panel. Trace data can be acquired for the following: panel, parts (by reel), machine, placement count, placement panel side, job, production times, feeder etc.
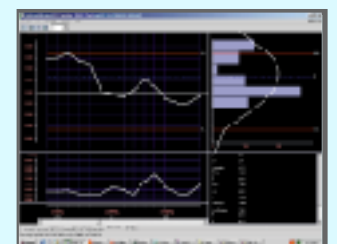
Fujitrax web

■ Reports

Fujitrax Web displays various reports based on the acquired Fujitrax data. Report data can be searched using criteria such as panel ID or part ID, and the reports can be used to analyze the cause(s) of defects or identify defective panels.

Board
Panel Tracking
Component

Fujitrax Profiler Server

Fujitrax Profiler DB

Fujitrax Adviser — Real-time mounting process control

■ SPC (Statistical Process Control) function

The panel inspection results obtained from the AOI are displayed in real-time. If any error trends are detected, these can be addressed in a timely manner in order to avoid large-scale production defects.

SPC Monitor

■ Work procedure process tool (Workflow Builder)

This function enables users to define procedures (workflow) for handling errors in advance, so that when an error occurs, the system will automatically display the pre-defined procedure to aid the operator in remedying the problem. By simply following the displayed procedure, the required counter-measure(s) can be applied consistently by all operators, regardless of experience or skill level.

Warning!

Fujitrax Adviser Server

Workflow

TCP/IP