



YSUP

NEW
Intelligent Factory®

Yamaha's Unique & Proven Solutions

IoT/M2M Integration system

Simplified Programming

Real-time Production Analysis

Flexible M2M communication

Smart Setup operations

Traceability

Remote Support

Smart Setup Operations

Component Setup Verification

Components setup verification function prevents invalid setup conditions.

Shows the setup / changeover on a guide display, and collates to verify that setting status is correct.



Rank Monitoring (YSUP-ST / YSUP-MI)

Bin code management for LED ranking can confirm the correct LED rank is being mounted.

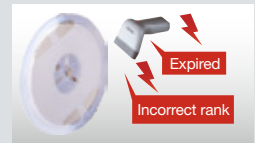
Offline Setup Navigation (YSUP-ST)

Utilizes an off-line loading station and feeder cart to load components on feeders and setup feeders on dedicated carts. All setups will be validated based on machine-specific program setup conditions.



Material Time Limit Management (YSUP-ST / YSUP-MI)

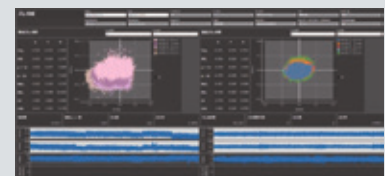
Define and monitor setup and production times for any MSL ranked consumable. The system will reject those consumables that exceed defined time limits.



Real-time Production Analysis

Live Production Dashboard / Production Analytics Dashboard

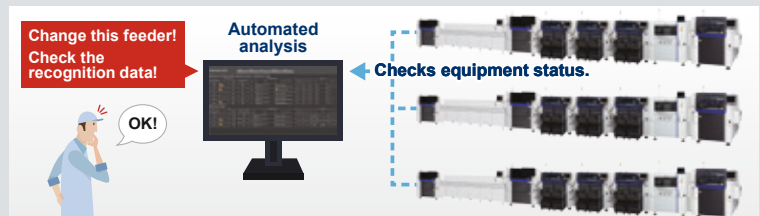
Visualizes the operation and quality status of the production floor and supports quick response to abnormalities and problems. Supports the identification of the cause of production line problems and improves the operational rate of the entire line, as well as improving quality.



Automatic Analysis of Pickup Errors

Analyzes production results automatically and identifies components that need improvement. Envisaged improvement actions are presented automatically to reduce the number of analytical processes significantly. The repetition of the presented tasks by operators improves the pickup rate.

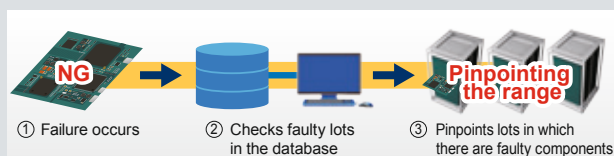
- The pickup rate is improved by operators just doing the tasks presented on the dashboard.
- Analytical work is made easy as the dashboard automatically aggregates and analyzes data during quiet periods.



Traceability Package

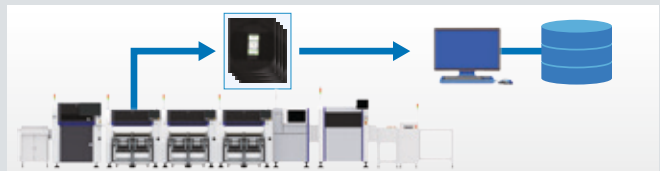
Production History Search (T-TOOL)

T-Tool captures real-time data related to PCB assembly and machine-driven events. Users will be able to query serialized data to pinpoint information at component level; gaining more visibility to extensive relational data.



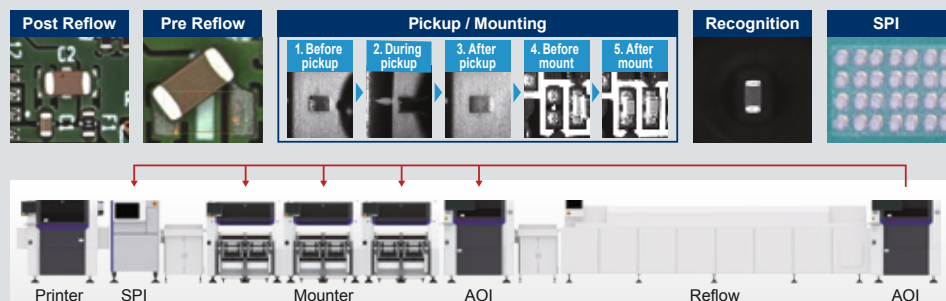
Accumulation of All Images (All Image Tracer)

Saves all of your mounter components recognition images on time, and all the way through the production process yet with no stress. Gives powerful support for analyzing component mounting quality.



Simultaneous Image Display in Each Process (Process Correlation)

Swiftly pinpoints the process where a failure occurred by displaying images from and the production status of each process simultaneously to support production process quality improvement.



Flexible M2M

Auto Program Change-Over (APCO)

APCO automates change-over for tooling, programs, setup and conveyor width.



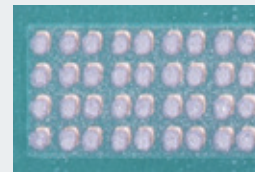
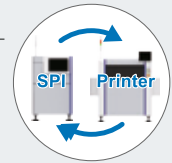
SEMI SMT-ELS Immediate Product Change is also available.

SEMI SMT-ELS M2M protocol is also available.

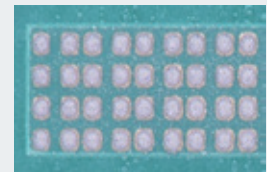
- SEMI SMT-ELS M2M is a communication standard between different machine manufacturers
- SEMI SMT-ELS details: https://global.yamaha-motor.com/business/smt/software/semi_smt-els/

Printer ↔ SPI Feedback

Defect result offsets from SPI can be fed back to printer to automatically adjust print offset. Also SPI machine can request stencil cleaning operation at printer.



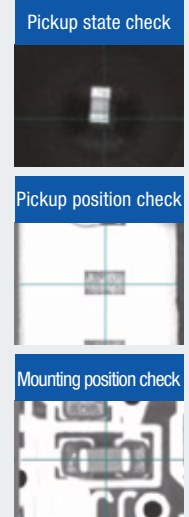
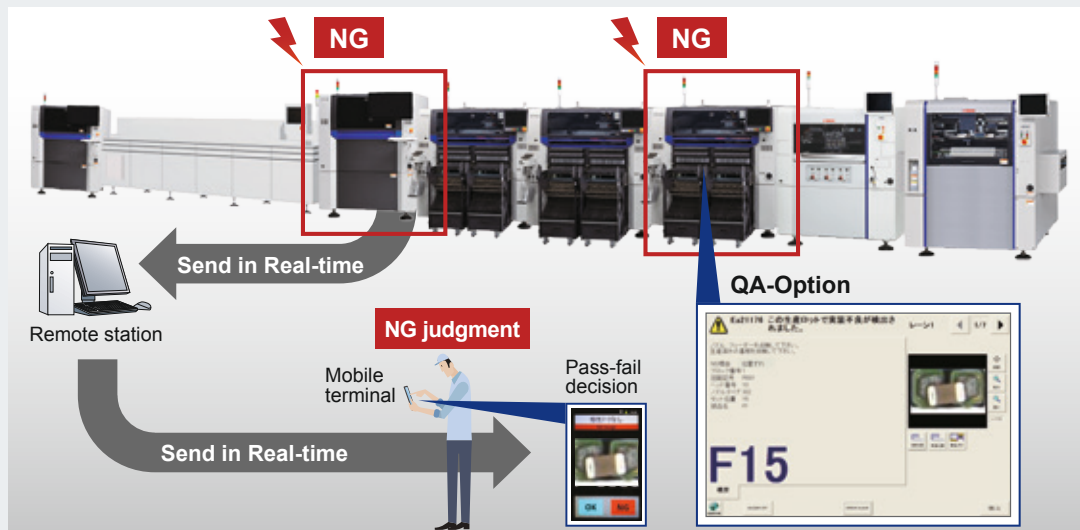
0201 Printing errors



Print error feedback

Mounter <-> AOI Linking (QA Option)

AOI defect results can be fed back to the mounting process to provide equipment operator information related to the defect. In turn, allowing the opportunity to resolve the issue in real-time.



Mobile Decision Function

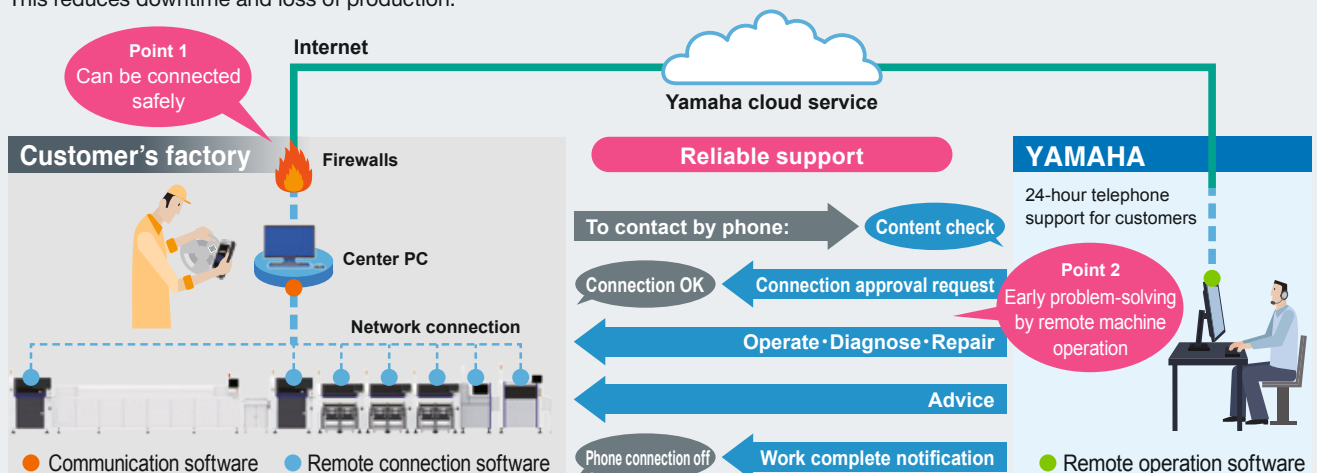
Communicates the inspection pass-fail results to an operator's mobile terminal.

Supports operator's efficient production by making the secondary judgement on the inspector results during machine operation.

Remote Support: Maintenance Package

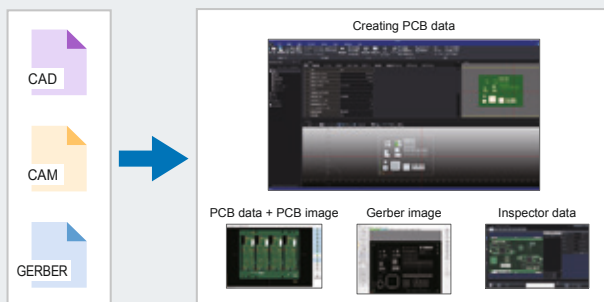
Remote Machine Support

Allows support staff the ability to assist with issue resolution and providing training support. This reduces downtime and loss of production.



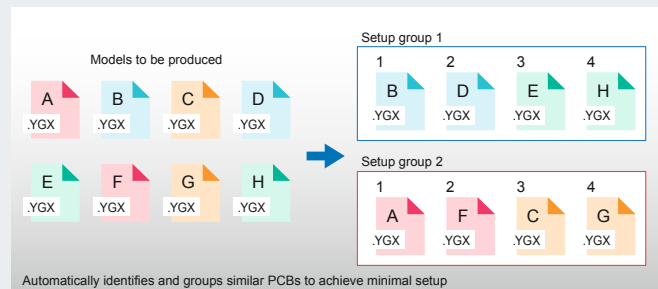
Simplified Programing & Scheduling Package

Create PCB data from various CAD data formats easily. PCB programs are transferable between Yamaha equipment (Printer, SPI, Mounter, AOI)



Optimization via Automated Decision-Making (YSUP-PG)

Optimizes component setup positions and mounting sequences to realize efficient production. It is also possible to plan optimal setup groups or production sequences by considering the PCB surface, reflow conditions, soldering type, and other detailed conditions based on multiple PCB data.



Graphical User Interface

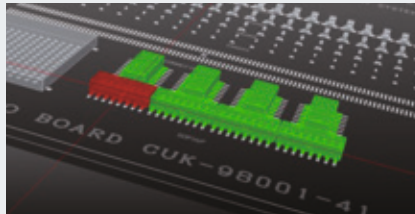
Real-time Drawing

Reflects changes made to a graphic immediately to create error-free component data.



3D Graphics

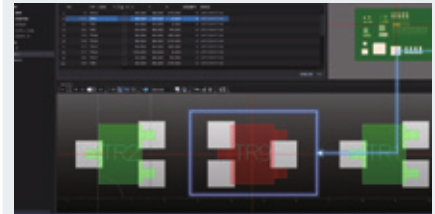
Displays the PCB data in a 3D image to make it easier to see the mounting status of components.



Mounting Simulation

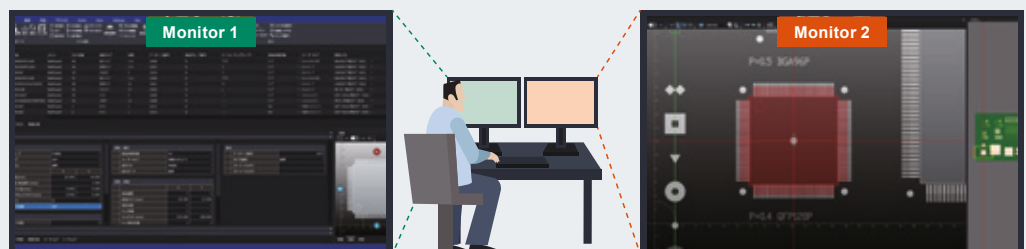
Displays a virtual PCB based on the PCB design data* to check the PCB data for errors before actual mounting.

* PCB design data: Gerber data, ODB++, etc.



Multi-monitor Support

Displays two screens simultaneously to realize comfortable operability.



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The models shown in the photographs in this catalog may differ slightly from the standard specifications. Specifications and appearance are subject to change without prior notice.

Yamaha Motor Robotics division is a subsidiary of Yamaha Motor Company.
Version: November 2023