Software for Assembly Process Management

Smart tools for boosting quality and throughput

For a fast changing world
Get more out of your machines

By listening to our customers and watching them at work, we've learned that software can do more than automate PCB assembly. When well-designed, it can improve quality, boost efficiency and impact your bottom line.

Our Assembly Process Management (APM) software suite includes applications that make engineering change orders easier by helping you avoid problems associated with incorrect machine programs and package data. Our optimization tool, for example, is currently being used to dramatically improve productivity in many plants around the globe. If you're anything like these manufacturers, you'll appreciate the fact that we've eliminated manual data entry, enabling complete traceability and correct, up-to-the-minute information. We've also added a monitoring interface to help you avoid rework by catching errors ahead of time.

The result is a software suite that saves you time and money by giving you the ability to respond rapidly without increased costs, and by shortening changeover and setup times. Plus it's upgradeable, so you never have to worry about starting over again from scratch.
Our software puts you in the driver’s seat

Whether you’re an engineer, operator or manager, you’ll find MYDATA’s APM software suite is intuitive and easy to use – because it follows the steps you would typically take in the assembly process.

1. Data Preparation
   MYCam™
   Conversion and revisions can be a real hassle with all the different part numbering systems, and the large variety of CAD and BOM formats. Not anymore. Our software gives you tools to accomplish automatic and error-free conversion. The end result is ready-to-run mount programs and assembly instructions.

2. Optimization and Scheduling
   MYPlan™
   Last-minute changes and delayed component deliveries can bring production to a halt. So it helps to have software that can ensure maximum equipment utilization and guide you through the process of creating step-by-step kitting instructions.

3. Manufacturing
   TPSys™ / MYLabel™
   Even the smallest of errors can jeopardize your manufacturing process. Take the incorrect loading of components and PCBs, for example, or the incorrect selection of a mount program. To help you avoid these rework situations, our machine operating software is designed to produce PCBs according to the specifications every time. Plus, it keeps your machines running – no matter what.

4. Performance Monitoring and Traceability
   TPSys™ Web Interface
   For continuous improvement of your manufacturing process, our performance monitoring software keeps an event log and archives traceability data. This makes it easy for you to find the data you need, and process that data into useful and attractive reports. You can also export the data to a factory-wide monitoring system.

Best of all, these tools keep you in control throughout the production process. With MYDATA’s APM software suite, you can handle programming and any other task off-line from anywhere in the facility, at any time. Without ever having to stop production.
Software that helps you prepare your data correctly. Every time.

1. Data Preparation
2. Optimization and Scheduling
3. Manufacturing
4. Performance Monitoring and Traceability

MYCam
Program your machine in seconds

MYCam converts all types of CAD and bill of materials (BOM) information into ready-to-run machine programs. Import options include virtually all native CAD file types, Gerber data and even scanned bare-board images. After being imported, the graphical rendering of the CAD image is checked for errors and can be edited. Editing may include the highlighted region used in documentation, pins, body graphics, and even custom text fields or photographic images of the component. References are individually adjustable for size, angle and font, or automatically arranged for maximum readability with “auto-place” technology.

Angle normalization

Angle normalization is achieved through several optional methods, depending on the needs of the customer. The first option involves a geometric comparison and a corporate angle database, which becomes more intelligent with use – ensuring consistent dissemination of part angle to the enterprise. Secondly, OEM customers may establish automated offset tables. Finally, the angle resolver built into the machine programming interface will resolve angles specific to each pick & place machine automatically.

KEY BENEFITS:
• Converts all major CAD formats
• Generates programs and instructions for the entire assembly line
• Links a component to specific placement information
• Uses the factory model to specify processes in each of your lines
• Sends mount files over the network to any machine or data server
As production moves towards increasingly smaller batch sizes, there’s no time for lengthy qualification runs or fine-tuning the line. Machine programs and package-handling data must be accurate before the first board enters the line.

New product introduction (NPI) and transfer product introduction (TPI) can be time-consuming, involving a wide range of CAD files and other file formats such as Gerber and ASCII. You need software that can identify and use whatever information you have, in whatever format. The same applies to the BOM: when you have many different customers, you need software that can identify part numbers from any source and safely translate them into your internal factory system. The APM software suite is designed to do all that. And more.

Visual documentation

MYCam offers the fastest, easiest, and most comprehensive visual documentation system for electronic assembly and processes, including fully automated and configurable color-coded tables, artwork storage and sharing across workgroups of engineers, complete video and audio support, OLE embedding, clipboard, Undo, and a host of drawing tools that behave as you would expect them to behave. Beyond expediting the initial documentation set development for a product, MYCam’s design enables instant engineering change implementation across the entire document set. This documentation may later be delivered electronically to the factory floor.

Totally off-line

With this Windows-based programming software, you can create library data and programs for one or multiple MYDATA machines as well as other SMT equipment totally off-line. You can then send that information, verified and up-to-date, over the factory network just in time for production start.
Optimize your productivity, not just your mount sequence

1. Data Preparation
2. Optimization and Scheduling
3. Manufacturing
4. Performance Monitoring and Traceability

MYPlan
Maximum equipment usage

MYPlan lets you easily perform feeder optimization and line balancing for your entire facility. The software lets you set your scheduling priorities, whether your goal is to minimize changeover time, maximize throughput, or achieve a balance between the two. Then, based on your priorities, the software calculates and predicts the assembly time, kitting, and changeover procedures.

More than just a useful changeover tool, MYPlan can increase your throughput up to 30 percent with MYDATA’s single mounthead, and even double it with the HYDRA Speedmount. Plus, the software offers inherent multi-machine line balancing, ensuring that no placement machine is idle because another machine hasn’t finished its task.

Predict job run-times

Do you have a client who needs the job done by Friday at ten o’clock? MYPlan can estimate when a job must be started, and when it can be expected to finish. All

KEY BENEFITS:
• Enables changeovers with minimum feeder loading
• Optimizes manufacturing time for highest throughput
• Automatic line-balancing
• Creates step-by-step kitting instructions
• Includes manual operations in assembly time calculation
• Communicates directly with the TPSys data server
Optimizing and scheduling your production lines is hard enough without disturbances like delayed deliveries and last-minute engineering changes. With this in mind, MYDATA’s optimization engine is built to help you respond quickly to changes in your environment.

Whether you’re short on manpower or equipment, the software is flexible enough to maximize your efficiency. For instance, you can set it to reduce changeover times to match your staffing levels. Or redistribute the work to maximize throughput over a number of machines. In each case, the ultimate goal is to ensure that you produce more boards at the end of the day. With step-by-step changeover reports and network-based distribution, you can make your workflow safer, more efficient and error-free.

You have to do is specify the working hours for each day, including lunch breaks and scheduled maintenance, then specify your due date.

**Step-by-step operator instructions**

When MYPlan has finished optimizing, you can print out the list of kitting instructions or download the files over the network to any machine in the facility. Step-by-step operator instructions include:

- Pick list for stock-room pre-kitting
- Component and quantity information
- Magazines to be used for each job
- Instructions on which feeders to unload, and which components to load
- Machine and slot information for each magazine
- Assembly program and magazine kit for each machine
TPSys is the backbone of MYDATA’s fully automated high-mix production. Features such as early low-feeder warning, package autoteach, electrical verification and shared databases maintain throughput while greatly reducing the risk of mistakes.

TPSys runs on a highly reliable, multi-tasking Linux platform that lets you perform backups and download files – without stopping production. Data integrity is guaranteed by means of a user access system with password protection, single-point data storage and automatic network backup. And all machines can be backed up to a local database, enabling them to continuously produce PCBs at all times – even if the central dataserver or network fails.

KEY BENEFITS:
- Real-time multi-tasking
- Off-line programming
- Reliable platform
- Autoteach package definitions
- User access/password protection
- “On-the-fly” verification of physical dimensions and electrical value
Continuous improvement is essential to staying competitive. That’s why our software is designed to let you continuously improve quality and productivity in order to meet production targets. Whether you’re following procedures from KAIZEN, Lean Production or Six Sigma, you can rest assured of minimizing the risk of human error and maximizing throughput.

Features such as electrical verification and warning lights to indicate low feeder levels ensure that new components are loaded correctly and ahead of time. Password protection ensures that only authorized personnel handle the software. And by adding a barcode system to the loading process, we eliminated manual data entry. Want to download a program or perform a backup? No problem. Thanks to its inherent multi-tasking capability, our software will keep the machines running no matter what other tasks you perform.

**MYLabel**

*Load components in just two barcode scans*

MYLabel is a combined software, scanner and printer that uses barcodes to speed up feeder loading and guarantee component traceability. With MYLabel, you can load a reel, stick or tray into a magazine in just two barcode scans. All part information is automatically transferred to the machine.

By using barcodes to track your components, you can lower the risk of error and reduce setup and changeover times during loading. MYLabel keeps track of quantity, batch ID, stock location and other data— for each and every component. All you have to do is print, scan and load.

**KEY BENEFITS:**

- Simplifies the loading process to two barcode scans
- Eliminates manual entry of information
- Tracks component quantity for all reels, sticks and trays
- Saves user-defined data such as stock location, owner, moisture sensitivity and expiration date
- Makes data accessible to other applications using ODBC
Performance monitoring for quality results and complete traceability

TPSys Web Interface

Our TPSys Web Interface gives you a real-time perspective and is the ultimate in performance tracking. At any time in the production process, you can use the web interface to access, view and track any machine in a line.

Traceability

The TPSys Event Log stores traceability data for every component placed by the machine. This includes information like batch ID, PCB ID and assembly start and stop times. An optional module can even keep track of the electrical value of every placed component. All batch information can be retrieved, downloaded and stored for any given time period or for a specific job.

Management data

The TPSys Web Interface lets you generate customized reports on machine performance and view them from any PC on the factory floor network. Statistical data can be integrated with a factory-wide tracking system or exported to a spreadsheet program for graphical presentations. You can also print reports on production runs, error identification, traceability data and utilization data. Lists

KEY BENEFITS:

- Easily exports information into spreadsheet programs
- Gives machine overview, down to individual feeders, nozzles and components
- Stores information in an event log
- Provides real-time overview of assembly stations
- Accessible anytime, anywhere
Rework is not only costly and time-consuming – it can jeopardize the quality of your product and even cause you to miss deliveries. But the right software can help you avoid accidents and unnecessary costs.

With constant on-line access to your lines, and the ability to track performance, it’s much easier to locate and replace a damaged nozzle or feeder ahead of time. Real-time alerts inform the operator of errors. And comprehensive tracking reports provide up-to-the-minute information on the number of mispicked components and the performance of each machine. Plus, all information is stored in a product history for full traceability. The end result is less rework and improved quality.

covering the total number of component rejects and details regarding specific error types may be useful in determining whether a problem was a result of incorrect data, a feeder problem, or components with incorrect electrical value.

**Process supervision**

During production, you can use the TPSys Web Interface to monitor the ongoing performance of each machine in real time - as the job is running. This can be helpful if there is a problem with a particular feeder, nozzle or package, since it can be monitored and corrected before throughput or quality is affected.

**Library maintenance**

Built-in intelligence helps engineers maintain machine libraries by providing “included-in” and “used-by” information throughout the hierarchical data structure. Verifying mount programs and assigning correct package names is an easy task using the graphical views of panels, PCBs, packages and components. You can search the package library by lead count or name, and track undefined or almost-identical packages.
The kind of support you expect from a software company

After all our talk, we know that MYDATA's APM software suite is only as good as the value you get from it. That's why we back up our products with applications, training and services to ensure you get the most possible value and return on your investment.

24 hours a day, anywhere in the world

Simply call our service number, and we will provide you with the expertise you need. No matter where you are in the world, we are available to assist you day or night.

We're always listening

In the past, listening to our customers has enabled us to create better applications, provide better training and offer better service. When it comes to future software development, your feedback is the most important input we receive.

MYDATA can ensure:

• A perfect fit and quick deployment of solutions within your facility
• Rapid learning through effective training
• Quick and accurate answers from our technical support personnel

Our global services include:

• Installation and upgrade support
• Technical support (including remote connection via MYLink to your machine to diagnose and solve problems)
• Training support
• Application support
• Interactive web support
No matter where you are in the world, we can assist you day or night.