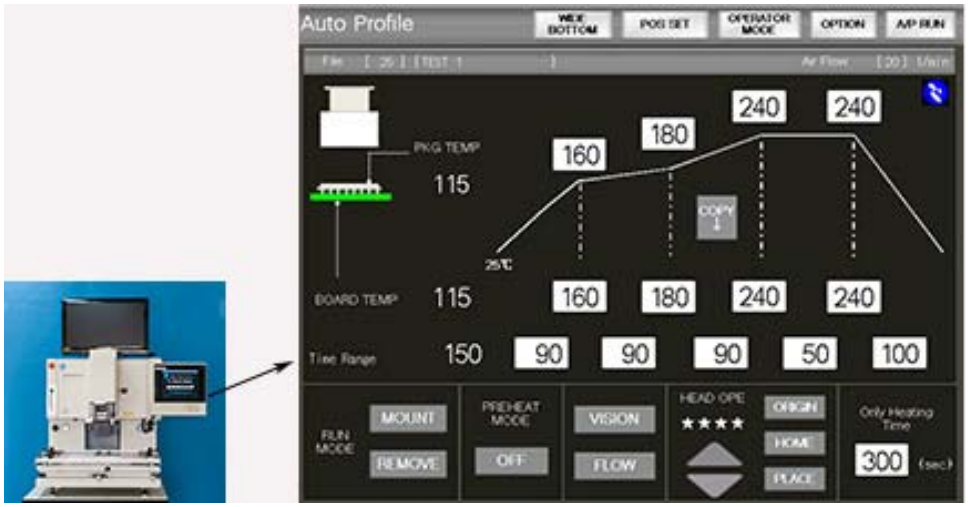
MS9000SAN-(III)　Rework Station.　Catalogue (Ver.1.03)

Overview

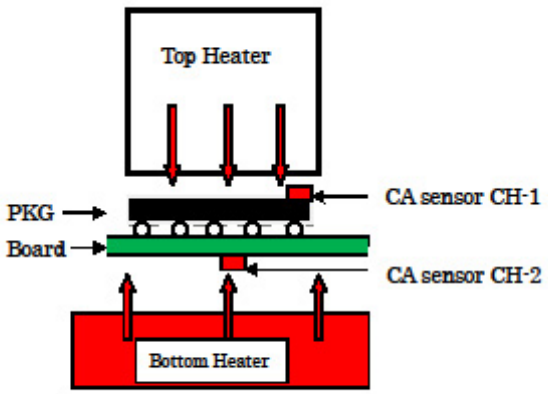
MS9000SAN-(III) is the all-round rework system which almost all SMD can be reworked. And the original ITTS auto profiler system is operates of the system easily and exactly. Many kinds, such as a connector, and a socket, a shield cover, of SMD can be reworked as well as BGA and CSP, and also QFP of a fine pitch.

- **Automatic Re-place & Pick-up with load free to the Package**
- **Newly ITTS(Intelligence Thermal Trace System)**
- **High performance combination heating system with Pre-Heat operation.**
- **Powerful 6 zones heating system**
- **Clear & High image magnification by large-size monitor.**
- **User Friendly touch screen operation system**
- **A display can be changed to four languages, Japanese, English, Chinese, and Korean.**
- **Built-in 2+2 CH Temperature profile checker.**
- **Built-in of the generator of N2 gas is possible.**

Automatic Thermal Profile System



ITTS (Intelligent Thermal-Trace System) make the optimal temperature profile automatically, if the temperature data of the profile which you expect is inputted. The ten-key screen for data input is appearing, if the window to input is touched. MS9000SAN has the important control data beforehand. The required input data are only temperature for soldering.

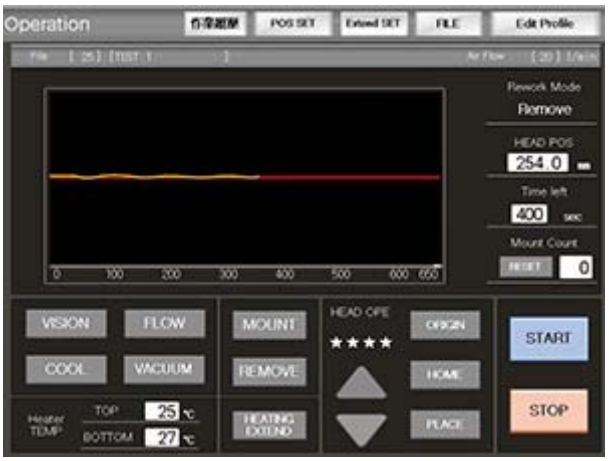


ITTS automatic operation is controlled by the sensor at "CA for CH-1, and CA for CH-2". The CH-1 is the temperature of surface of the component, and the CH-2 is the temperature of under-side of the board.

In generally, the temperature of CH-2 makes it the same as CH-1; then the temperature of solder will be the approximately same.

The CA sensor for CH-1 and CH-2 must be sensing correctly of surface temperature each. It is very important. The suitable CA sensor kit for the subject is model ST-50K.

Operation System



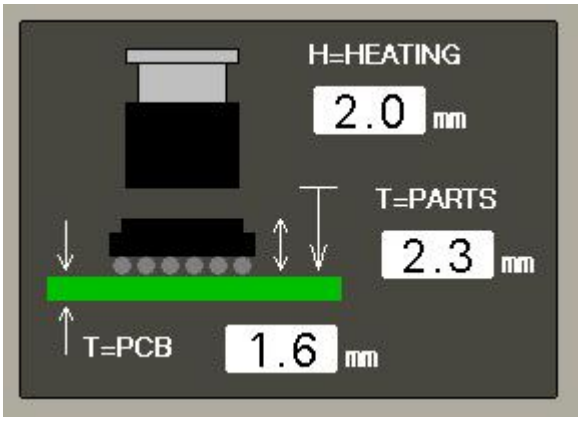
Interlock Screen Sample

In MS9000SAN(III), there are the screen for administrators and the screen for workers. For safety, the screen for administrator is managed with the password. And only operation keys are shown in the operator's screen. By those keys, can never change and input, of the data.

Furthermore, the machine has many interlock screens; the picture is some example screen. They will be also protecting an operator's safety.

Auto Parts Removing

At MS9000SAN-III, if the stop position of the heating nozzle, the height of components, and the thickness of the board are setup, the worker can do removal of components only by pushing a start button.



Auto Parts Mounting

The same also at the time of mounting of components, it is heated automatically and the soldering is completed. However, in the case of mounting, it has to prepare the components which applied solder beforehand. And the process of pick-up of the component is required

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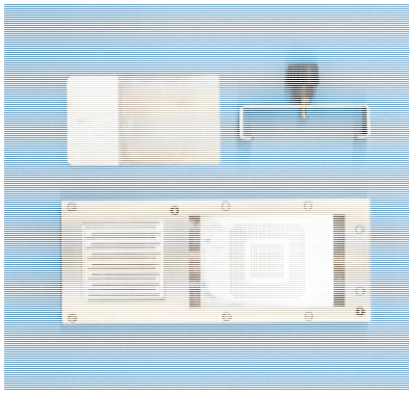
Solder Printing to the component

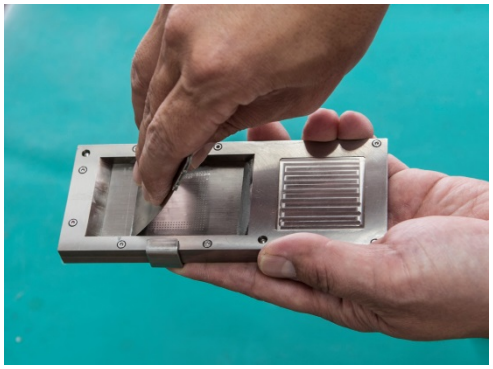
MS9000SAN-III has a Printing Tool of model SND-N. It has two functions, one is printing by metal mask, and other one is by transcription.

The nozzle of MS9000SAN-III can pick up components automatically, if SND-N is set to MS9000SAN-III.

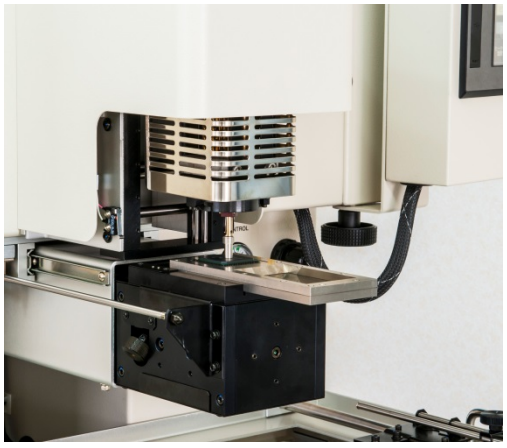


SND-N Printing Tool

Transcription Printing



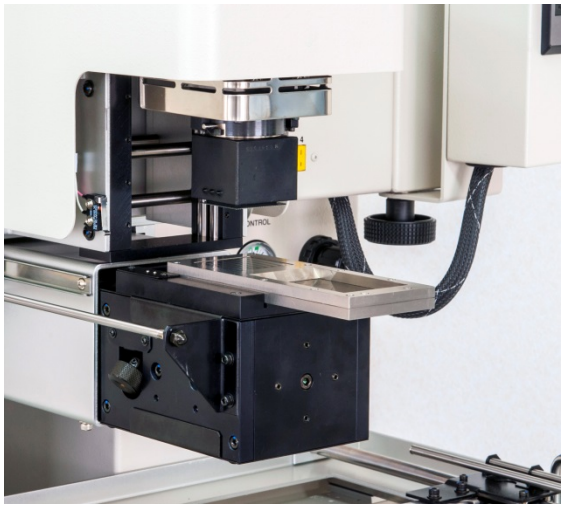
Squeegee Printing



Transcription Printing

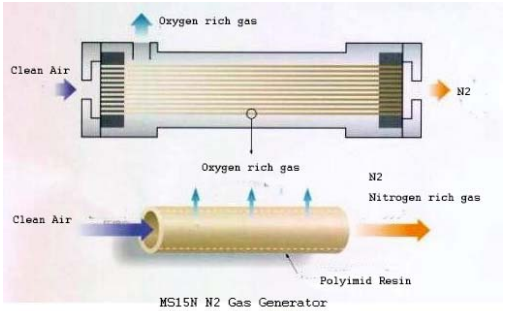
Components Pickup

If SND-N which printed of solder completed is set to MS9000SAN-III, the nozzle of MS9000SAN-III will take up components automatically.



Soldering in N2 gas environment.

MS15N Type of N2 gas generator is attached to MS9000SAN-III.
Soldering which uses N2 gas is very good than hot air eating. Probably, it will be indispensable when especially a diameter 0.3mm or less of BGA.



MS15N N2 Gas Generator

Multiple-Language System (English/Japanese/China/Korea)

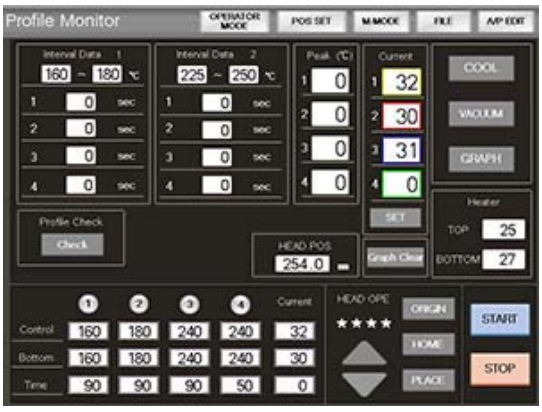
The screen display can be choosing by the basic setup of the system. All screens are displayed in the selected language.

Built-in 2+2 CH Temperature profile monitor

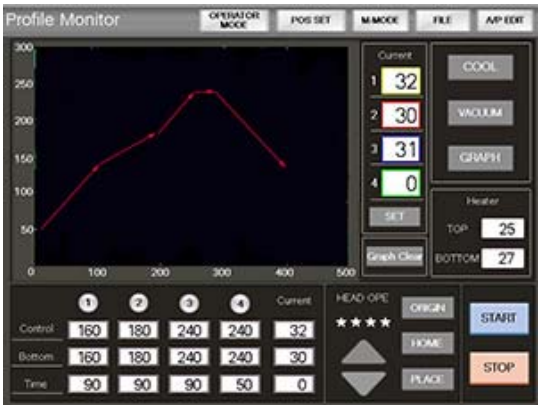
Profile Monitor Screen has two kinds of the displays, one is for graph data and other one is for the analyzed data. They can change and checked on the screen.

Measurement of temperature is possible at 4CH. However, CH1 and CH2 are used for control at the time of ITTS automatic operation.

Data analysis is peak temperature for each CH, and the time interval for each CH at the temperature specified in before. It can be check at the 2 points.



Data Measuring Screen



Graph Measuring Screen

When it should not be completed with ITTS. (In for example, the case of special parts etc.)

ITTS data can be transmitted to M mode operation screen of 6+1 zones.

The temperature profile is finely correctable on M mode screen.

Data Sample

The profile data can be sending to the PC. It is transmitted in the SVC data of the Excel. The data sample showed And the data is printed out from the PC as "the data sample". The size of it is A4.

The data sample is shown as:

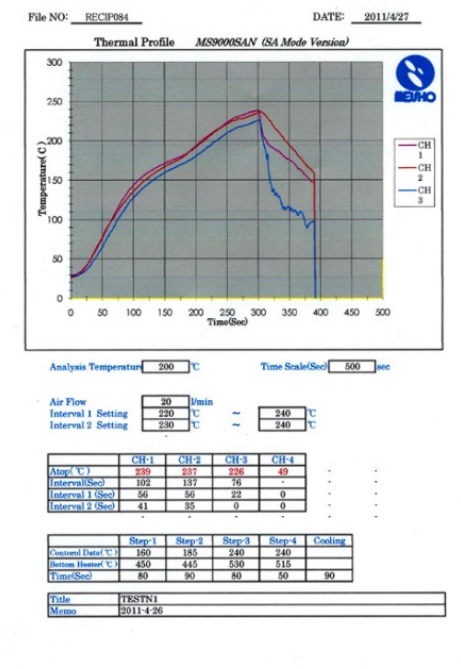
CH-1 Surface on the PKG.

CH-2 Under the board.

CH-3 at the other position.

ITTS is automatically operated so that the temperature on the surface of the PKG by CH-1 sensor, and the under-side of the board by CH-2 sensor. If setting temperature of CH-2 is the same as CH-1, In the case, solder temperature will be same as it.

Manual 6 zones control mode is M. In this case, the profile control data inputted are able to up to six. the printed out format is different from the A.



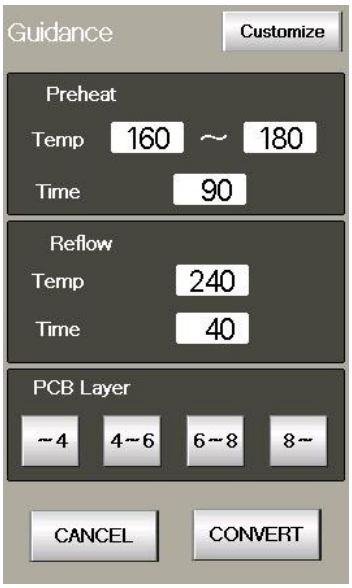
Data Sample

When make a temperature profile, with M mode for the first time.

When the most suitable profile is not provided in A mode. In the case, It make with M mode. MS9000SAN-III has a supporting function to facilitate it. They are two means.

One is by Data Conversion Screen.

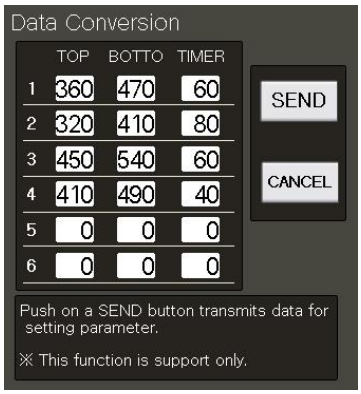
The input data with the M mode are provided if input the temperature data of the profile to expect in the same way as ITTS.



Data Create screen

Other one is SKIP.

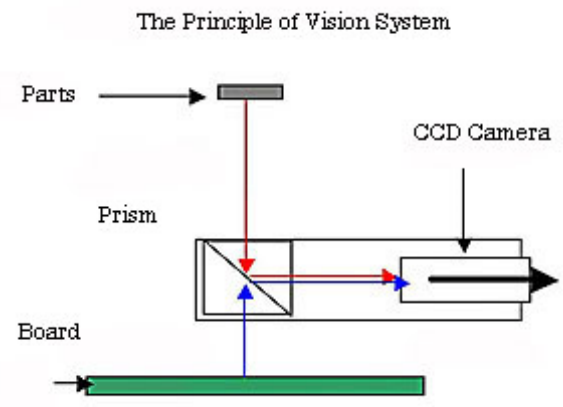
While measuring temperature characteristics, the skip button is operated and a temperature profile will be made.

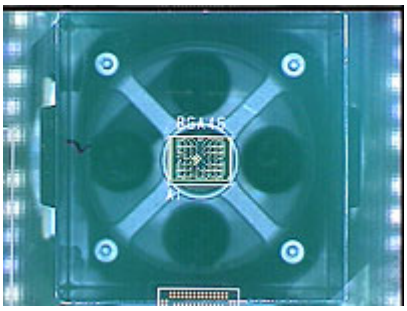


Data Conversion Screen

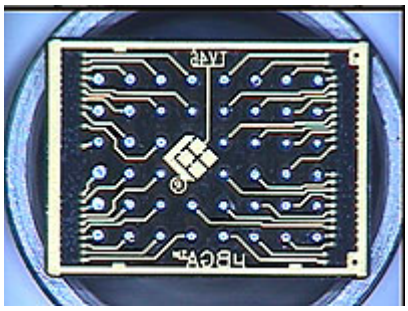
The Vision System

The function of the positioning is very important function of the rework station. Since there is from small CSP of fine pitch lead to large size of BGA recently. MS9000SAN-III rework station has the highly efficient vision system.

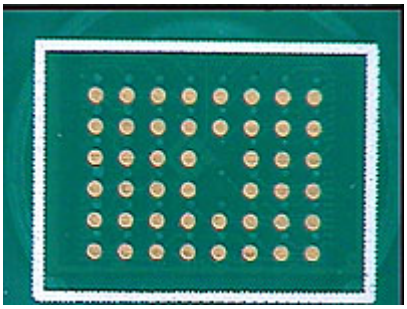




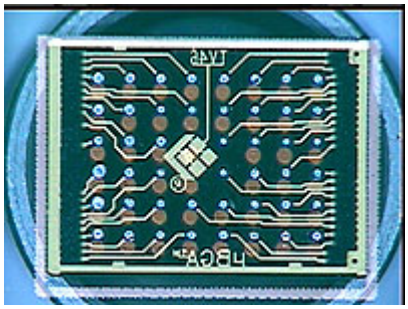
Original Image



Magnifier Image



Board Image



Board & Components Image

MS9000SAN-III has a 22 inch LCD monitor; it is very effective to large-sized BGA.

22 inch LCD Monitor

Accessories

The process for the reworking required many kinds of the Jigs, attachments and also other machines. We are preparing all of them required for the process.

Standard Accessories:

1. Board support Jig
2. Under board support pins system (2 rails and 4 pins)
3. Power Cable (3 cores) x 1 (approx. 5M)
4. Air Tube x 1 (6mmD approx. 3M)
5. Solder Printing Tool x 1 (Metal mask x 1 / Transcriber x 2)
6. Nozzle x 1
7. Center Vacuum bit x 1

Optional Accessories:

1. Re flow Nozzle: It choose according to the size.
2. Wide Bottom Heater: It must be equipped by us.
3. Sensor Kit: it consisted of 5 sensors with Lead wire.
4. Test Board Kit: It is for calibration for vision system.
5. Solder Printing Tool: Model SND-N (Transcriber type)
6. Re-balling Tool: Manual re-balling Jig.
7. PCB Prevention Jig: for preventing warp of the board.
8. BGA Scope: Visual check of the BGA ball.
9. X Ray Inspection System: soldering check
10. RBC-1 Re-balling and printing Tool.
11. MS-15N N2 Gas Generator.

Specifications

Item	Specifications
Board size	50x50--- 400x500mm
thickness	0.5--3.5mm
Weight	3Kg max.
Top Space	up to 90mm max.
Bottom Space	up to 25mm max.
XY Table Fine Adjust	+&- 5.0mm max.
Moving Range	150x200mm max.
Board Holder	Z Slot or Holder Jig
Board Support	Under side 4 pins with 2 rails
Z Axis	Auto- Pickup & Mount of Components.
	Stepping Motor Controlled (2.4mm/sec)
Accuracy	Repetition Accuracy: +&-:0.025mm
Adjustable Angle	Nozzle Angle Adjuster:+&- 5 degrees
Vision System	Component Size: 1.0x1.0/50x50mm
Magnification	:zooming x75 max.
Focus	Auto/Manual selectable
Touched Panel	On the 10 inch LCD touch screen
Monitor	22 inch LCD
Top Heater	Hot air 260x4=1040VA
Bottom Heater	Standard:by IR 1000VA (150x300mm)
	Optional Wide Type IR3000VA (300x450mm)
	Optional Spot Air 50Φmm 520VA
Controller	10 inch Color Touched Panel System
Temp. Controller	ITTS Auto-Thermal-control system
Manual Mode	6+1 zones PID Control available
Data Setting	Top heater: 000---450
	Bottom Heater: 000---600
Time Range	Heating: 000----999 sec.
	Cooling: 000----999 sec. (Manual/Auto)
Temp. Measuring Accy: <±0.5%FS+1C	A mode: 2CH+2(ITTS) by CA-K Sensor
	M mode 2 CH
Data Save	100 for A mode+100 for M mode max.
Data Analyzer	Peak and Time interval for each CH.
Power	220-240V AC 2 phase 2.5KVA
Air	0.5Mpa (N2 possible)
Dimension	650Wx860Dx730Hmm
Weight	80Kg approximate.

The specifications are subject to change without notice.