



SMD Rework Solution

We are specialist for SMD Rework such as 0402 chip, CSP, BGA and QFP etc.

▶ Japanese ▶ Contact Us ▶ Site Map | M.S. Engineering Co., Ltd.

Search

[Home\(Products\)](#) > MS9000SAN Overview

MS9000SAN-(II) Rework Station

Overview



MS9000SAN-(II) 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 Thermal Profile System

ITTS(Intelligence Thermal Trace System)

High performance combination heating system

Powerful 6 zones heating system

Standard split screen zoom for easy alignment of large components

User Friendly touch screen operation System

For global use, it can change to four languages. (English/Japanese/China/Korea)

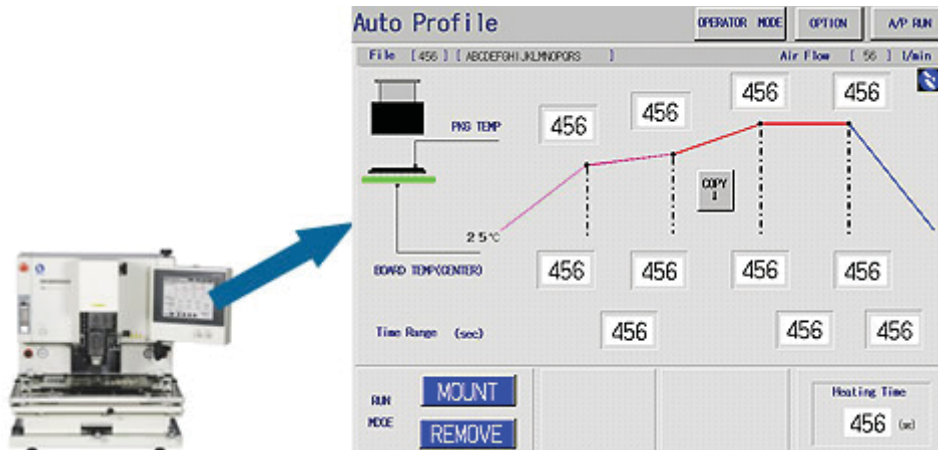
Built-in 2+2 CH Temperature profile monitor

Optimal for Lead Free Solder

[>>Next Page](#)

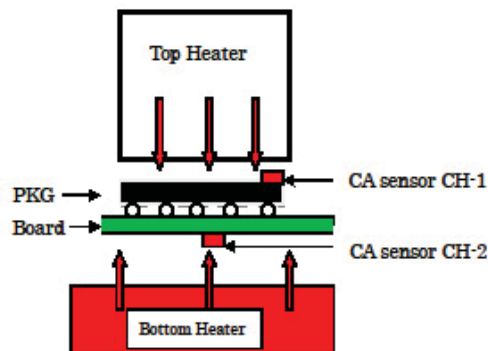
MS9000SAN-(II) Rework Station

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 appear, if the window to input is touched. MS9000SAN has the important control data beforehand. The required input data are only temperature for soldering.



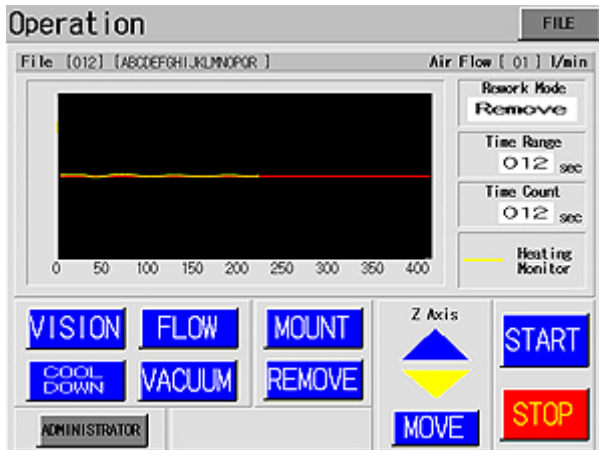
ITTS automatic operation is controlled by the sensor at "CA for CH-1, and CA for CH-2". The CH-1 is the temperature of surface of the component, and the CH-2 is the temperature of under-side of the board. In generally, the temperature of CH-2 makes it the same as CH-1; then the temperature of solder will be the approximately same.

More details can be check the technical report "[Rework Solution Technical Report](#)" and "[The Best Heating System for Reworking](#)".

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](#).

MS9000SAN-(II) Rework Station

Operation System



Interlock Screen Sample

In MS9000SAN, 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 not never change and input, of the data.

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

MS9000SAN-(II) Rework Station

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



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

MS9000SAN-(II) Rework Station

Built-in 2+2 CH Temperature profile monitor

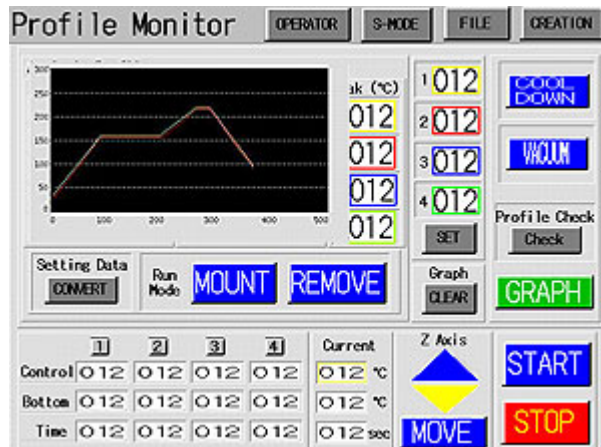
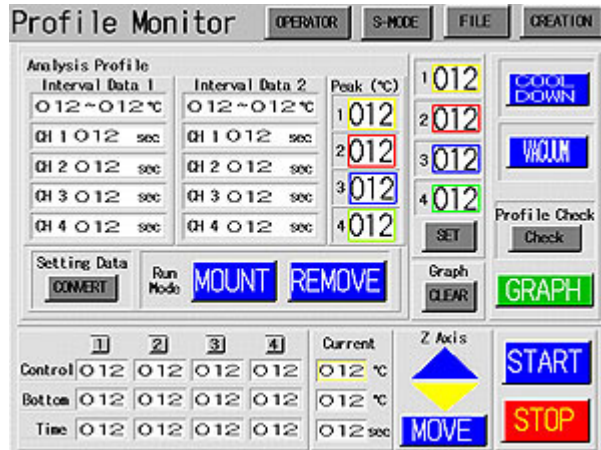
Profile Monitor Screen has two kinds of the displays, one is for graph data and other one is for the analyzed data. they can be changed and checked on the screen.

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 checked at the 2 points.

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.



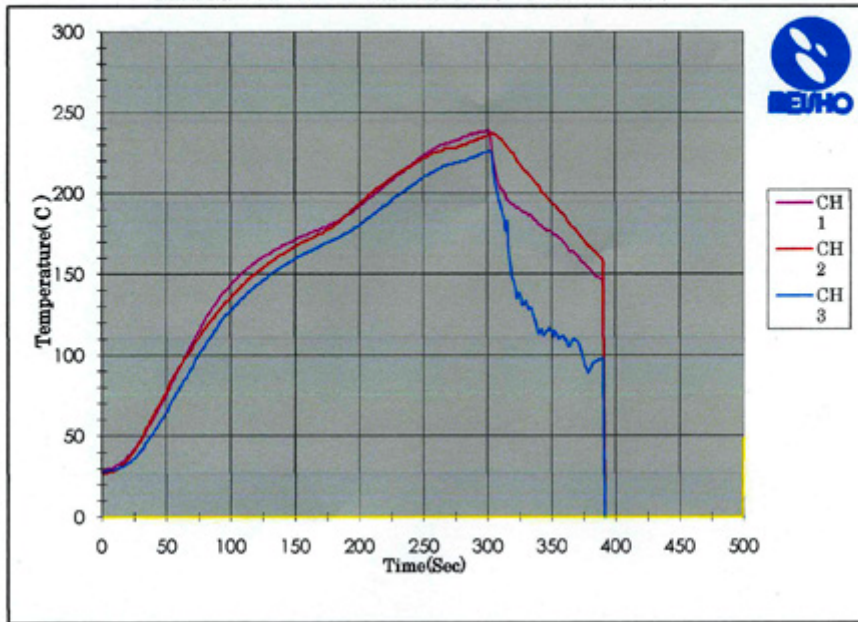
MS9000SAN-(II) Rework Station

Data Sample

File NO: RECIP084

DATE: 2011/4/27

Thermal Profile MS9000SAN (SA Mode Version)



Analysis Temperature °C

Time Scale(Sec) sec

Air Flow l/min

Interval 1 Setting °C ~ °C

Interval 2 Setting °C ~ °C

	CH-1	CH-2	CH-3	CH-4		
Atop(°C)	239	237	226	49	.	.
Interval(Sec)	102	137	76	.	.	.
Interval 1 (Sec)	56	56	22	0	.	.
Interval 2 (Sec)	41	35	0	0	.	.

	Step-1	Step-2	Step-3	Step-4	Cooling
Control Data(°C)	160	185	240	240	
Bottom Heater(°C)	450	445	530	515	
Time(Sec)	80	90	80	50	90

Title	TESTN1
Memo	2011-4-26

MS9000SAN-(II) Rework Station

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 has a supporting function to facilitate it. They are two means. One is by **Edit Guidance**

The screenshot shows the 'Edit Guidance' dialog box. It has a title bar with 'Edit Guidance' and a 'Parameter' button. The dialog is divided into three sections: 'Preheat', 'Reflow', and 'PCB Layer'. The 'Preheat' section has 'Temp' set to 456 ~ 456 and 'Time' set to 456. The 'Reflow' section has 'Temp' set to 456 and 'Time' set to 456. The 'PCB Layer' section has four buttons: '~4', '4~6', '6~8', and '8~'. At the bottom are 'CANCEL' and 'CONVERT' buttons.

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.

Other one is **SKIP**.

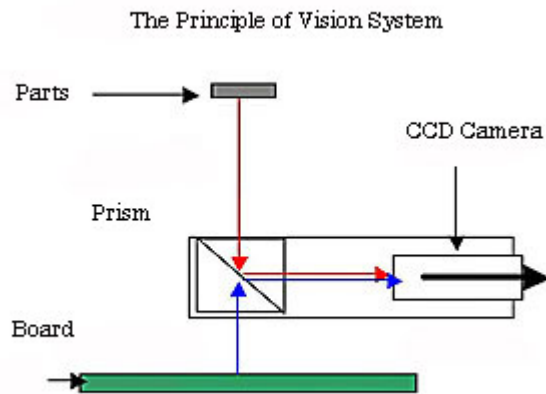
It create profile curves while monitoring a rise curve of the temperature. it is by the operation of the SKIP button.

[>>Next Page](#)

MS9000SAN Rework Station

The Vision System

The function of the positioning is very important function of the rework station. Since it is from small CSP of fine pitch lead to BGA of large size recently. MS9000SA rework station has the highly efficient vision system.



Positioning Screen by the Direct Image:

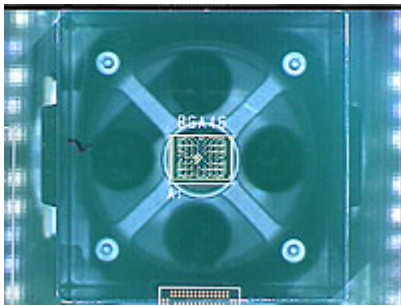


Fig 1

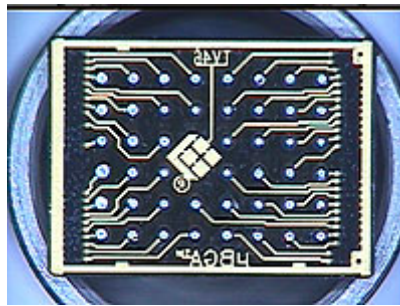


Fig 2

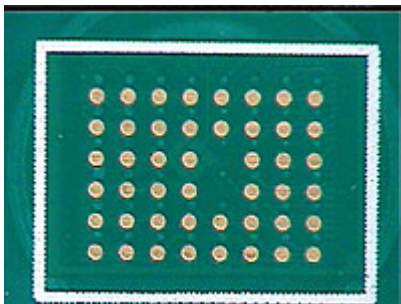


Fig 3

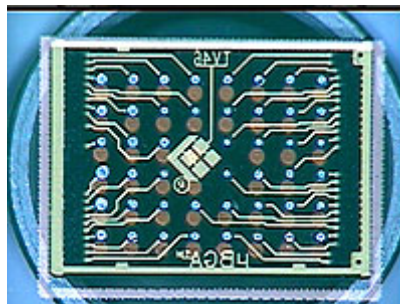


Fig 4

Positioning Screen by the splitter Image:

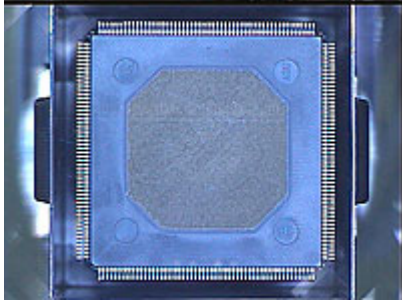


Fig 5

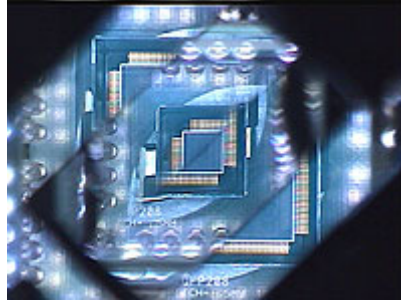


Fig 6

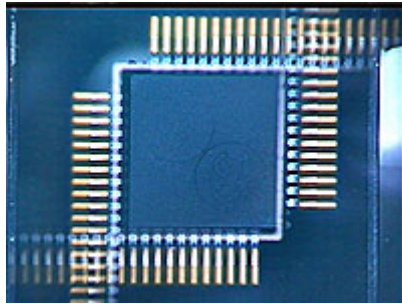


Fig 7

When the size of the PKG is 27mm or more, the portion of a diagonal image is cut off and it indicates by expansion.

Fig-5:40mm QFP

Fig-6:Cut-off image.

Fig-7:Expansion image

It can positioning in high accuracy

[>>Next Page](#)

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MS9000SAN Rework Station

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 (L size x 4 / S size x 4)
2. Under board support pins system (2 rails and 4 pins)
3. Board Stopper x 1
4. Power Cable (3 cores) x 1 (approx. 5M)
5. Air Tube x 1 (6mmD approx. 3M)



Board Support Jig

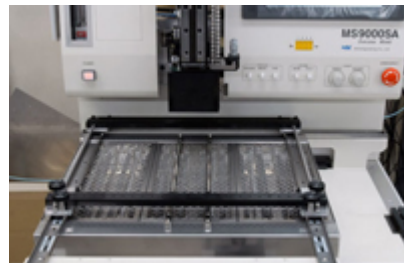
MS9000SAN Rework Station

Options

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.
4. [Test Board Kit](#): It is for calibration for vision system.
5. [Solder Printing Jig](#): Model SND is handy printing Jig.
6. [Package Supply Adapter](#): for easy supply of the BGA.
7. [Re-balling Jig](#): Manual re-balling Jig.
8. [PCB Prevention Jig](#): for preventing warp of the board.
9. [BGA Scope](#): Visual check of the BGA ball.
10. [X Ray Inspection System](#): soldering check
11. [Fine pitch CSP Re-balling and printing Jig](#)



[Nozzles](#)



[Wide Bottom heater](#)



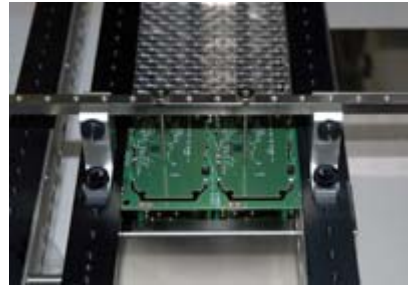
[ST50K Sensor Kit](#)



[OP-TB01 Test Board Kit](#)



[MSX500 X Ray Inspection System](#)



[Board prevention Jig](#)

[>>Next Page](#)

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MS9000SAN-(II) Rework Station

Specifications

Item	Specifications
Board size	50x50--- 400x500mm(L Type)
thickness	0.5--3.5mm
Weight	3Kg max.
Top Space	up to 45mm 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	Motor Controlled
Accuracy	Repetition Accuracy: +&-:0.025mm
Adjustable Angle	Nozzle Angle Adjuster:+&- 5 degrees
Vision System	Component Size: 2.0x2.0/50x50mm
Magnification	:zooming x75 max.
Focus	Auto/Manual selectable
Monitor	On the 10 inch LCD touch screen
Splitter	Splitter/Direct selectable
Top Heater	Hot air 260x4=1040VA
Bottom Heater	Standard:by IR 1000VA (150x300mm)
	Optional Wide Type IR3000VA (300x450mm)
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 Acy: $\leq \pm 0.5\%FS + 1C$	A mode: 2CH+2(ITTS) by CA-K Sensor
	M mode 2 CH
Data Save	100 for A mode+100 for M mode max. In the Flush-memory
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.