

SMT Rework System

• Rework Station MS Series

Advanced Rework Solution for SMD from 0402 Chip Parts to large size BGA



MS9000SAN All round Rework Station



MS9000SAN is the all-round rework system which almost all SMD can be reworked.

And the original ITTS auto profile system is operates of the system easily and exactly. Many kinds, such as a connector of SMD can be reworked as well as BGA, CSP and fine pitch QFP.

Applications

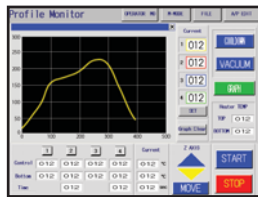
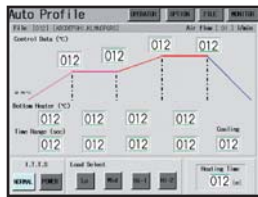
Board	Size: 50x50-400x500mm Thickness: 0.5-3.5mm Weight: 3.0kg max.
Component	CSP,BGA,QFP,SOP,etc. Size: 3mm-50mm square (from 0.4mm lead pitch)

Simplicity Model MS8000N
(Excluded of placement function)

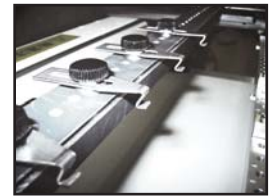


Features

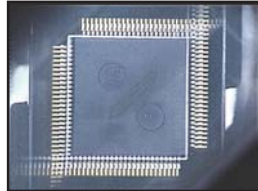
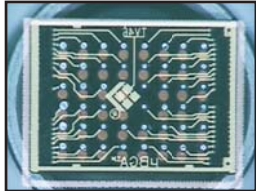
- Automatic thermal profile control system by ITTS (Intelligent Thermal Trace System)



- XY table which can be detached and attached holds any PCB firmly and easily



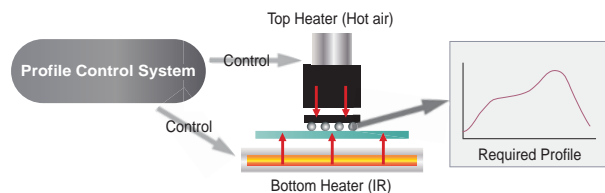
- High accuracy placement vision auto- focuses system
Splitter screen zoom for easy alignment of large components



- Multiple-Language (English/Japanese/Chinese/Korean)
The language of the operation screen can be change



- High efficiency and powerful top/bottom controlled heating system
High performance Hot air and IR combination heating system



- Heaters controlled by sophisticated Programmable Logic Controller
- Easy and exact operation by touch screen system
- Built-in thermal profiles monitor system
- Profile data memory up to 200 files
- Data is managed with a password

Options of MS9000SAN



Wide Bottom Heater (model MS9000-WSAN)

- For Large-size board such as 350mm or more.
- Flatly wide heating is providing for without warp.
- It is required for large size and multilayer board.
- Controlled 1KVA x 3 heat zone. ON-OFF is possible except the central main zone.



Parts Supply Unit (model SND-ADP)

- Used together with the printing Jig.
- BGA and CSP can be exactly supplied to the rework nozzle.
- After printed parts can be pickup at the center of the nozzle.

MS Series provides the best performance of reworking For 0402 Chip, CSP, BGA, & Lead type Component etc.

MS9100 for large board



MS9100 is the rework system for very large size and heat load board. The bottom heater system is very wide and powerful. The reworking will be success even the board of the 5.0mm thickness and 24 layers.

- 6 zones profile control system
- 8KVA wide bottom heater system
- High accuracy placement auto focuses vision system
- Splitter screen zoom for easy alignment of large BGA

8KVA
Wide Bottom Heater



Applications

Board	Size: 50x50-520x610mm Thickness: 0.5-5.0mm Weight: 5.0kg max.
Component	CSP,BGA,QFP,SOP,etc. Size: 3mm-50mm square (from 0.4mm lead pitch)

MS7000 for chip/CSP



MS7000 is rework system for chip parts such as 0402(EIA01005). If head is exchanged, the CSP of up to 27mm can be also reworked. It may be reworking even 0.15mm gap of the chip with special tweezers. Solder dispense and cleaning is possible with standard Dispenser and optional Cleaner.

- 4 zones profile control system
- High accuracy placement with optical vision system
- Exchangeable head for Chip & CSP
- Standard high precision Dispenser & optional Solder Cleaner
- High magnification external CCD camera

0402 Tweezers
(for 0.15mm gap)



Applications

Board	Size: 50x50-100x150mm Thickness: 0.5-2.5mm Weight: 1.0kg max.
Component	Chip Parts,CSP,BGA,QFP,SOP,etc. Size: 0402(EIA 01005) - 27mm square

MS6000 for chip parts



MS6000 is rework system for chip parts only, It can be rework from 0402 (EIA 01005) chip and densely board with the original Tweezers Head. The solder cleaner and Dispenser is also equipped by optional.

- Fast heating and cooling by the halogen NIR Top heater
- High magnification CCD camera
- Narrow gap rework is possible by original tweezers
- 2 zones profile control system

NVD-2400
Dispenser & Cleaner



Applications

Board	Size: 50x50-100x150mm Thickness: 0.5-1.0mm Weight: 0.5kg max.
Component	Chip Parts. Size: 0402(EIA 01005), 0603(EIA 0201), or larger

Global Distribution and Technical Services

MS Series rework system is provided in the world.

The distributor with technical service is covered all over the world as the map.
(Japan, Korea, Taiwan, China, Singapore, Indonesia, Malaysia, India, Australia, New Zealand, Europe, Russia, USA, Mexico, Brazil etc.)

The details are our URL http://www.mseng.co.jp/msc_e.htm



Abundant options do rework more reliable.



Nozzles

- It makes by the size of the component.
- Usually, from a minimum of 5mm square.
- Component is made to hold in a center vacuum bit.
- Special bit is possible, such as cross type.
- Special form nozzle is possible, such as rectangle.
- Fine pitch QFP nozzle is possible.

For standard lead pitch BGA (such as 1.0 mm or more)

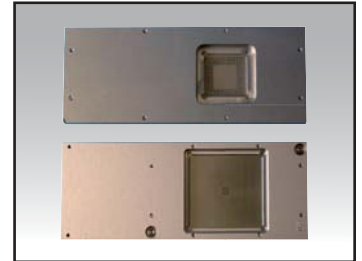


Re-Balling Jig (model RBL)

- Positioned on the basis of the outside of BGA
- The metal-mask is made to the specification of BGA.
- The metal mask is exchangeable.
- It uses combining SND printing jig.
- It will be completion if it heat by the rework system after re-ball process.



printing



Solder Printing Jig (model SND, SND(S))

SND :

- Positioned is by fit a hole of metal mask, and the solder ball of BGA.
- Freely size use, if exchange of the metal mask.

SND(S) :

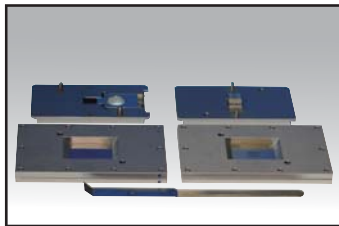
- Positioned on the basis of the outside of BGA.
- Exclusive use, for each size of BGA.



SMD Solder Cleaner (model NV2200)

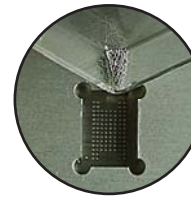
- Probe type vacuum cleaning.
- Probe type Hot air heating.
- The tip of the probe can be exchange.
- A narrow land can also be cleaned in the small size of a tip.

For fine lead pitch BGA (such as 0.4mm or more)



Re-Balling Jig (model PLCR)

- Positioned on the basis of the outside of BGA.
- The BGA is held by the spring plate.
- The metal mask can be perpendicularly removed.
- It uses combining PLCP printing jig.
- Exclusive use, for each size of BGA.



Re-balling



Solder Printing Jig (model PLCP)

- Positioned on the basis of the outside of BGA.
- The BGA is held by the spring plate.
- The metal mask can be perpendicularly removed.
- Printed BGA can be taken up by the rework nozzle.
- Exclusive use, for each size of BGA.



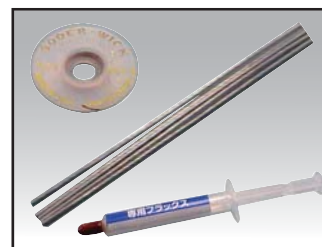
Test Board Kit (model OP-TB01)

- The tool for calibration for the vision system of MS series.
- It can be test also for heater power.
- Consisted of 35x35 BGA (352 pins) x 3, 0.5mm pitches 27x27 QFP x 3, and Test board x 3, and one calibration nozzle.



Sensor Kit (model ST50K)

- The surface temperature of a component or a board can be measured correctly easily.
- Consisted of 300Lmm x 5 CA sheet sensor, 5 special lead, and one high temperature adhesion tape.



Solder Cleaning Assist Kit (model MSC-01K)

- The damage by overheating when solder cleaning can be decreased.
- Consisted of special flux, solder, and solder-wick.
- If they are added, the target solder will be melted at 100 degree Centigrade.



Reflow Profile Checher (model MSC300U)

- Low price 3 CH temperature profile checker.
- The data can be check on the monitor of PC by USB interface.
- Consisted CA sensors of wire type x 3, and analysis software.

MSX500 X-Ray Inspection System



MSX1000HR X-Ray Inspection System



MSX500 is X ray inspection system for BGA, CSP solder joint. The system is compact and can use on the desk-top. New developed X-ray generator will provide of high performance.
MSX500SW can change X ray angle to 0 to 45°

Features

- The best for combine use with the rework station.
- The X ray generator is newly developed DC inverter and air cooling types.
- High resolution image by the high sensitivity X ray CCD camera with the close up system.
- Clear image by integral visual controller with PC.
- User friendly motor driven XY table with safety external operation.
- Easy operations and unnecessary of specialist.
- The check point is locked quickly by built-in Laser pointer.
- High safety to X ray by full sealing box with interlock door system.

MSX1000HR is high resolution inspection system by 5 micron x ray generator. The original x ray generator is generated at the large angle of 120 degrees, thus, it can observe to the check angle to plus minus 60 degrees without moving angle of the material.

Features

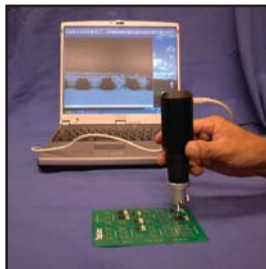
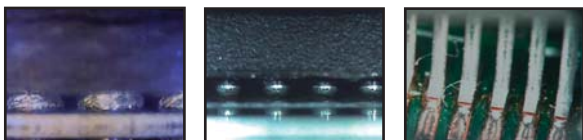
- The X ray tube is closed type, it is long life and safety operation.
- 5 micron high resolution image check is possible.
- Magnification of the x ray image is up to 140; furthermore, x 8 expansion image is possible. It is total x 1120.
- ±60 degree view angle change is possible, it is only in adjustment of the detector
- 360 degree view angle change is possible, when used of the optional manipulator.
- The XY table also can be controlled by the data.
- The screen also can be monitor with dividing x4 and x 8.

Specifications

Model		MSX500	MSX500(L)	MSX500SW	MSX1000HR
X-ray generator	Voltage	70Kv max adjustable			90Kv max adjustable
	Current	3mA max adjustable			40µA max adjustable
	Focus	0.8mm			5µm
	Cooling	Air Cooling			
	X Ray Angle	0°		0 ~ 45°	0 ~ 60°
Detector	X-ray CCD camera	2/3 inch		Image Intensifier 4inch	
PC	CPU	2.4GHz			2.53GHz
	Memory	256MB			512MB
	HD	CD-RW , FDD : 3.5in , HDD : 40GB			CD-R/RW, FDD HDD : 40GB
	OS	Windows 2000			Windows XP
	Display	15 inch (36cm)			
Main body	Visual controller	Contrast enhancement White Level enhancement			M2 Vision Soft
Main body	Dimensions(main body)	630W x 740H x 755Dmm	830W x 740H x 1000Dmm	630W x 740H x 755Dmm	880W x 1560H x 950Dmm
	Weight	120 Kg approx.	150 Kg approx.	130 Kg approx.	300 Kg approx.
	Power	AC 230V 500VA		AC 230V 800VA	
	X ray Leakage	Less than 1 µSv / h			
	X ray protect	Special X-rays protection cabinet			
	Magnification	30X screen image			(12 ~ 140) x 8 = 1120 max
	Table size	350 x 270mm	450 x 550mm	350 x 270mm	350 x 400mm
Table stroke	X	120mm	180mm	120mm	180mm
	Y	160mm	180mm	160mm	180mm

MS Series BGA Scope MS1000U

This is Visual inspection system for BGA solder joint. The image output can be connecting to the USB of PC; power is supplied from the USB. Therefore, image-data is clear and management becomes easy. The system consists of a probe, an angle sensor for BGA, a straight sensor for as QFP and Visual Analyzing software. (It can be integral area, size measurement, etc)



Specifications

PC interface:	USB 2.0
Image Resolution:	480,000pixel SVGA800 x 600
Frame Rate:	30FPS
PC required:	Pentium II 350MHz or more.
PC recommendable:	Pentium III 800MHz
OS:	Windows 98SE, ME, 2000, XP
View Range:	1 x 2mm
Lighting:	LED white
Sensor Prism:	12H x 5W x 2T.(for Angle) and 15H x 5W x 4T (for Straight)
Probe Size:	160L x 450mm 200g



Model	MS9100	MS9000SAN	MS8000N	MS7000	MS6000
Board Handling					
PCB Size	50 x 50 ~ 520 x 610 mm	50 x 50 ~ 400 x 500 mm	50 x 50 ~ 280 x 400 mm	50 x 50 ~ 100 x 150 mm	
PCB Weight	5.0 Kg	3.0 Kg		1.0 Kg	0.5 Kg
Clearance	Top/Bottom: 25 mm max.	Top: 45mm max / Bottom: 25mm max.		Top/Bottom: 25mm max.	Bottom: 10mm max.
Thickness	0.5 ~ 4.5 mm	0.5 ~ 3.5 mm		0.5 ~ 2.5 mm	0.5 ~ 1.0 mm
XY fine adjuster	± 5.0 mm		± 7.5 mm		± 5.0 mm
Component	3 ~ 50 mm CSP, BGA, QFP. etc.			0402(EIA01005) ~ 27 mm CSP, BGA, QFP	0402(EIA01005) ~ Chip parts
Vision System	Dual Image and Split Prism		—	Dual Image / External CCD	External CCD
Magnification(Total)	Zooming X72 max.		—	Zooming X300 max.	
Focus	Auto / Manual (selectable)		—	Auto / Manual (selectable)	
Monitor	14 inch Color LCD	10 inch Color LCD	—	14 inch Color LCD	
Heating System	Balanced Heating System				
Top Heater	Hot Air1080VA (270 x 4)			Hot Air 880VA (440 x 2)	IR100W
Bottom Heater	IR 8KVA	IR 1KVA / 3KVA	IR 1KVA / 1.5KVA	IR 680VA	Hot Air 400W (200 x 2)
Controller	Touch Screen				
Control system	Top & Bottom + Time x 6 zones		T x B x T x 5 zones	T x B x T x 4 zones	T x B x T x 2 zones
Heating head adjuster	± 5° θ adjustable				
Nozzle	Interchangeable Nozzle			Tweezers Head	
Dispenser/Cleaner	—			5cc + 0.25 mm needle / Vacuum Cleaner	
Profile Checker	Data can be transfer to the PC by the card memory		—	Temp. Checker	—
Channels	5 CH	3 CH	—	3 CH	—
Sensor Terminal	K type CA Thermocouple (CMP)		—	K type CA Thermocouple (CMP)	—
Analyzing	Temperature of peak & Interval for each channel.		—		
Profile Data File	100 files max.	100 files max. (SA & S each)	50 files max.	80 files max.	10 files max.
Temperature Control	Logic PID		PID		
Top Heater	000 ~ 450°C			000 ~ 500°C	0 ~ 12V
Bottom Heater	000 ~ 600°C			000 ~ 600°C	000 ~ 500°C
Time setting	000 ~ 999 sec. (Top & Bottom common)				
Auto Profile System	—	Intelligent Thermal Trace System	—		
Mechanism					
Accuracy	± 0.025 mm (Repetition)				
Z Axis	Motor controlled		Manual		
Dimensions WDH	750 x 950 x 1750 mm	650 x 780 x 725 mm	500 x 700 x 540 mm	510x630x800mm	470 x 650 x 520mm
Weight	150 kg approx.	75 Kg approx.	40 Kg approx.	85Kg approx.	20Kg approx.
Power Supply(AC)	220 ~ 240V 10 KVA	220 ~ 240V 2.5KVA		220~240V 2.0KVA	220~240V 1.0KVA
Air Requirement	0.5 Mpa Dry Air (N2 possible) By 6ømm tube.				

*The specifications are subject to change without notice.