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## MS7000IR Rework Station

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**MS7000IR**

MS7000IR is the automatic heating rework system. It is controlled by ITTS (Intelligence Thermal Trace System) . The top heater is by the high response middle-range infrared rays (MIR), and the bottom heater is Far IR. Each heater are controlled by ITTS. Therefore, the auto-thermo profile creation function arranged the upper and lower side of the board.

**| ITTS auto-thermo-trace system controls upper and bottom heating individually.**

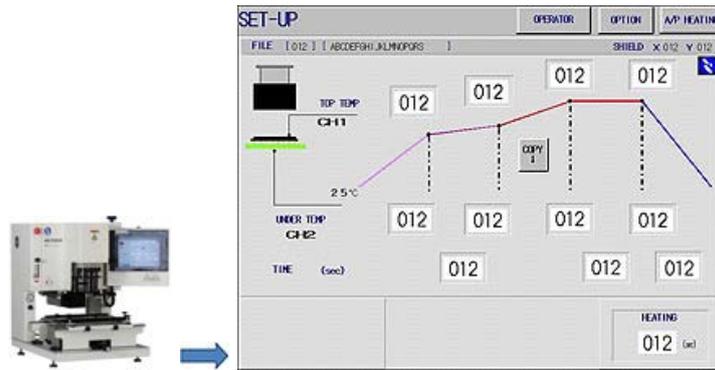
**| Creation of the optimal temperature profile is automated.**

**| The nozzle change is un-necessary.**

**| Top heater is the high response Middle infrared rays.**

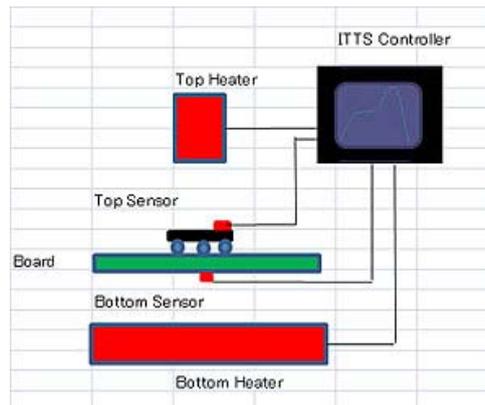
**| Z axis is motor controlled, and it is semi-auto system.**

## ITTS Operation



**ITTS setup screen**

MS7000IR is a rework machine with a auto-thermo trace system. The temperature sensor for ITTS is two managing locations. They are the surface of the reverse-side of the board, and other one is the surface of the package. Those sensor must be able to detect surface temperature precisely.

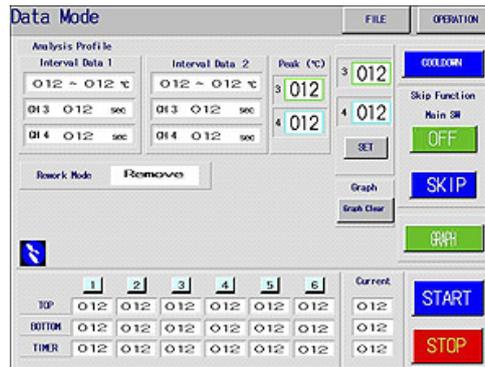


**ITTS Diagram**

The required temperature profile data is input to the four windows, MS7000IR is operated automatically as the setup temperature data. Four windows of the upper side are the temperature for solder, and the under side windows are for reverse-side temperature of the board. The time data will be automatically input by the machine. The all input data can be change always by manually. MS7000IR automatically hearts according to input data. The satisfied data should be save in the file holder in the machine. And then reworking by it. MS7000IR has other two kinds of control mode, It is a M mode.

## M Mode Operation

It is for manual setup of the heating data, It has 6 heating zones, and heating data input to each by manually.



Manual Data creating screen

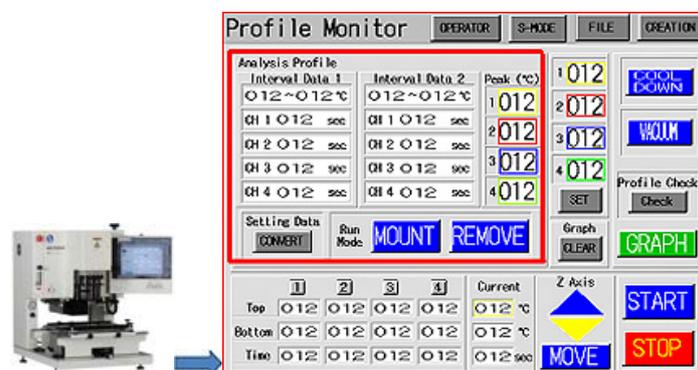
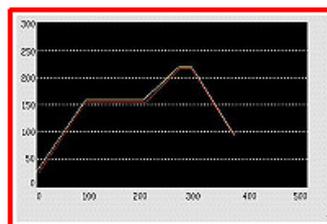
The control data into six windows and heat test it, The data is for top heater control, bottom heater control and time data. The SKIP function will be effective when for creating of the profile.

The SKIP function is a method to be able to advance to the next step by switch. In that case, each data of the windows should be input large, and watching progress of the heating. Then change to the next window, when temperature coming the optimally.

## Creation of a Profile Data

MS7000IR has a function to monitor profile data. The red frames can change the indication of the measurement curve and the indication of analysis data. It changes with a GRAPH switch.

This function is also in M mode also by AP mode. It can be trace for 4 colors, 2CH are for controller, and other 2CH are for measurement.

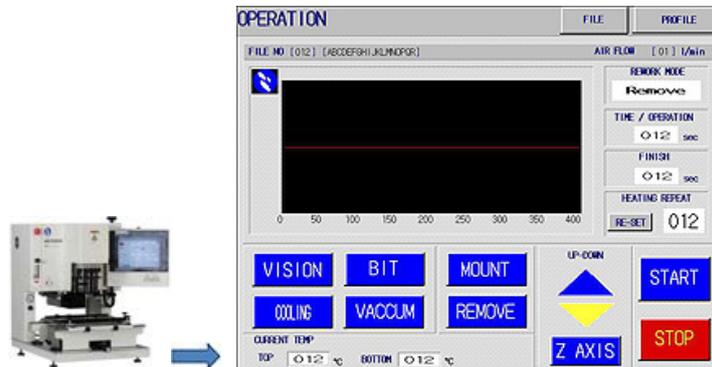


The screen for Creating a profile

The setup data can be saved at each mode. AP mode data is maximum of 100 files, and M mode is maximum of 100 files.

The data is managed by the Windows Excel CSV files. The data can be send to the PC, by the CF memory-card. The data can be analyse with the original software by the Excel on the PC. And the data can be print-out to A4 size paper by the PC with the original format.

## Z axis sem-auto



**Z axis semi-auto operation screen.**

Z axis of MS7000IR is by semi-auto motor controlled. The axis is able to automatically up and down by the up-down switch. And the last fine adjust is by manual. Therefore, operation is easy and safety.

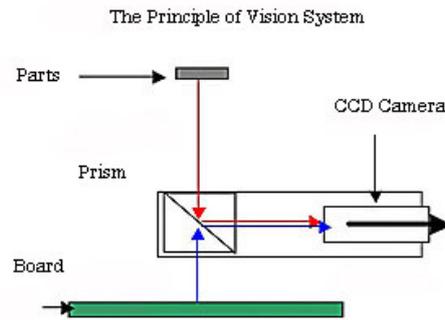
## Adjustment of the Heating Range



**Top Heart Range Adjustor**

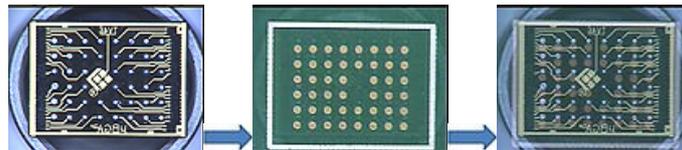
The heart range of the top heater can be adjust by the shutter to the head. The shutter is changeable. They are possible to change by 10mm to 50mm square.

## Vision System

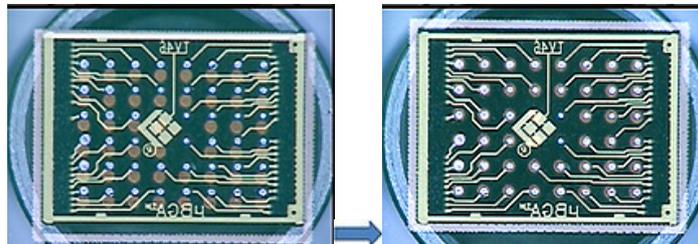


### Optical image equality System

The positioning system is by optical image equality. It is the system that it displays the land image of the board and the pattern image of the part on the monitor at equal magnification. If those images fit, it will be the completion of positioning. The sample below images are 6x8mm CSP.



Parts image+board image+both of images.



Both of image + adjust = Completion positioning.

## Specifications

Item	Specification
Component size	3.0 x 3.0 ---35 x 35mm
Board Size	50 x 50 ---200 x 250mm max
Fine Adjust for Rotation	±5 degrees max by Z axis by manual
Fine Adjuster X and Y	±5.0mm max by XY Table by manual
Board Thickness	2.0mm /1Kg Max
Clearance of under the Board	25mm Max
Clearance of the board Top	45mm Max
Z Axis	motor control
Under support for the board	by 4 pins on 2 rails
Heater Control System(PID)	AP ITTS Auto-Profile x 2 M Manual 6 zones
Parts Pick Up	Manual pic-up by Vacuum Bit.
Parts replace	semi-automatic
Controller	Touched Panel 10.4inch Color with Logic controller
Top heater	800VA Middle IR Area Range:10x10 -- 50x50mm by XY Shutter
Bottom Heater	1.0KVA Far IR
Control Data Save	AP mode:100 files max M mode: 100 files max
Control Data Memory	Excel CSV file in the CF Memory
Temperature Measuring	CA-K: 2(controller)+2CH(measuring)
Data Analyzer	Peak Temp x 4 / Time-Interval x 2 x 4
Data Graph	4CH max
Monitor	640x480 dot 10.4 inch (Ext by RGB)
Vision System	AF 70x max with splitter system
Power	200--240V 2.0 KVA
Dimension	580W x 730D x 750Hmm 60Kg approx.
Air	0.5Mpa Dry

The specification are subject to change without notice.

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