

Surface mounting technology for mounting smd components on pcb essay



**ASSIGN
BUSTER**

SURFACE MOUNTING TECHNOLOGY (S. M. T.) USED FOR MOUNTING SMD COMPONENTS ON PCB(PRINTED CIRCUIT BOARD) SMT PROCESS IS DEVIDED IN THREE PHASES: SCREEN PRINTING MACHINE SP-100: The sp-100 is a versatile screenstencil printer manufactured by SpeedPrint that is used for larger substrate and printed circuits boards.

The sp-100 provides high degree of precision required for screen-printing circuits of widely varying sizes using a flexible work holder. The work holder contains two movable pins to locate the board on it. The machine control panel contains the necessary controls & indicators, this includes the Print mode selector, and Start Print Cycle buttons & an Emergency stop button.

PICK AND PLACE MACHINE MY-12: MYDATA MY-12 is designed to pick components from their packages and place it at the right position on a solder paste screen-printed board. With its exceptional accuracy, the MY12 performs both high-speed mounting using the HYDRA Speedmount at 21,000 Components Per Hour(CPH), and accurate fine-pitch placement with the Linescan Vision System (LVS). It also contains an optional electrical verifier which can ensure you that your component has the right electrical value and proper dimensions. It also has a single mounthead called as Midas which is used to mount a single component of all types. PICTURE OF MY-12: [pic]

FEATURES: • Midas Mounthead: This standard mounthead is fast, reliable and accurate which can place any type of component from ultra-fine pitch and large components to complex Chip Scale Packages (CSP).

• HYDRA Mounthead: The optional HYDRA speedmount is designed for high-mix, high-volume production. The HYDRA can handle eight different components simultaneously, and significantly increase the throughput. When

combined with standard Midas mounthead, we have a machine for both high-speed mounting and fine pitch placement on a single platform. [pic] HYDRA Mounthead • Electrical Verifier: In combination with MYDATA's optional electrical verifier, we can cut down on difficult and expensive rework. The optional verification system ensures that all PCBs are assembled with components that have the correct electrical value and dimension - without slowing down the mounting process.

This verification system is only associated with the standard Midas mounthead. • Linescan Vision System: We can get the best placement results from MYDATA's Dual Vision Camera (DVC). The DVC is made up of two cameras that inspect, center, and provide best-fit placement of components. Equipped with programmable lighting in the cameras, the DVC ensures optimal illumination for all package types. It can inspect both large and small components, fine pitch to complex packages without loss of detail or precision.

[pic] Linescan Vision System CONECPTRONIC REFLOW OVEN: This system is designed by Conecptronic to deliver forced conductive heat to of the surface of circuit assemblies for the primary purpose of mass solder attachment of surface mounted devices. Heat is carefully delivered through a ramp-soak-spike profiling method enable by zone-controlled gas flow temperature & rate throughout designated region of the heat chamber. In operation, P. C. B. to be reflowed is loaded on conveyor in the on load zone.

They are then carried through 5 vertical regions of process heat, &are then cooled as they pass on to the off load area where they are removed. Each 12

inch long zone-inclusive of the gas return duct is located at the end of each connective panel heater which is microprocessor based closed-loop temperature controlled. OVEN CONVEYOR OPERATION: The standard oven conveyor system is set-up for left to right operation flow.

The standard conveyor also combines a synchronized rail chain/belt to move the product board through the heating chamber. Both conveyors are synchronized with one another. They are microprocessor controlled through a magnetic disc closed loop feedback system. ————— REFLOW
SOLDERING PICK AND PLACE SCREEN PRINTING