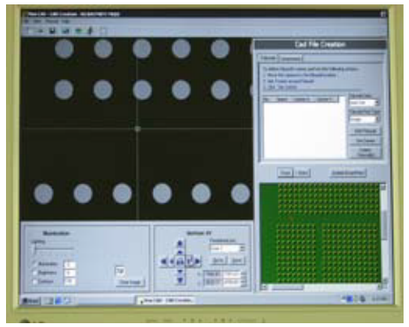
Selectiva Xi

Machine Specifications

Dimensions	Width	1,000 mm
	Depth	1,200 mm
	Height	1,350 mm
Weight	600Kg	750 Kg Shipping Weight
Power Supply	230VAC, 50 Hz. 24AMP.	Single Phase
	110VAC, 60 Hz. 24AMP	Double Phase
Pneumatics	80 PSI. 2 CFM	Clean, Dry Filtered Air
Control System	Pentium 4	Win 2000 Operation System Track Ball
	Color Monitor	17" Flat Panel Display
	Keyboard and Tracking Ball	

Specifications are subjected to changn without notice

Machine Options



Automated CAD creator
Creates fast and automatic CAD files directly from the board using backlight panel and machine vision technique.
Using a high contrast backlight panel, the machines scans the board and automatically finds the position of the holes to create a full CAD image within seconds.
This feature is useful for fast turn around when no CAD information is available.
Max. supported board size is 14"x18".

Bottom side automated optical inspection (AOI)
This module detects skipped joints, insufficient / missing solder, and bridging using a gold PCB method.
The machine uses the built in vision system to automatically learn a gold PCB and compare the solder quality to the current tested board.
Since the inspection is performed from the bottom of the board, the process can be inline.
The machine can be ordered as a stand alone AOI system.
This version does not have the laser soldering capability.

Warpage Compensation
Compensate for board warpage up to 2 mm in the center.
The machine incorporates a pilot laser beam that is used for board warpage measurement. Warpage measurement is taken for every component before soldering and using a software algorithm, the machine compensates for the warpage and moves the solder wire and laser to the correct position accordingly.

Pre-heaters
Generally used for high thermal mass boards to pre-heat the board before soldering.
The pre-heater can either be mounted above the board, inside the machine to maintain the board temperature during soldering or positioned in front of the machine as a separate inline pre-heater module.

selectiva Xi ver:02/2008 TamarPrint 04-6390510

Local Representative:

No 6 Hatikshoret st, Ramat Gavriel Migdal HaEmek, Zip Code 3407049
info@midan.systems.com

Selectiva Xi

In-Line Selective Soldering System

Most of today's PC boards present a co-existence of through-hole and surface mount packages on the same board (mixed assembly).
Whenever a board's secondary side contains devices that cannot go through wave solder without costly protective fixtures, the through-hole components must be selectively soldered without impacting the adjacent components already soldered.

Beamworks has developed **Selectiva Xi**, an In-Line Selective Soldering System that utilizes a power controlled diode laser with closed loop temperature and solder volume control for the soldering of Through Hole (TH) components.
The high power diode laser provides high performance, low operation costs, long life and minimal maintenance.
Selectiva Xi enables soldering **from the bottom of the board,** which eliminates the need to flip the board prior to the soldering process, allowing the user to truly incorporate the machine in the SMT line.
Selectiva Xi uses a vision system for auto alignment, simple download of CAD data to create programs, and an offline editor to allow users to program away from the machine.
Using fiducials for alignment, and CAD data for locating the leads, significantly reduces costs and programming time.

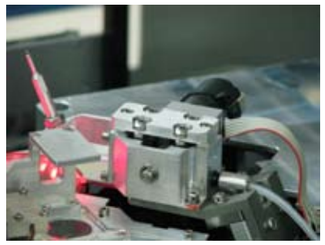
Selective Soldering of Through Hole (TH) Components

MIDAN SYSTEMS

Ready to get a feel for success from Beamworks Selectiva Xi ?

Main Benefits

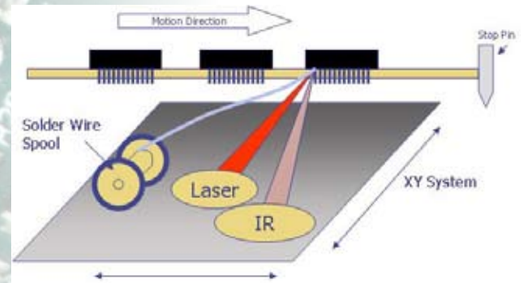
* High power diode laser (75w) for reduced soldering time
* Quick change over between Tin lead & lead free solder wire
* Automated in-line operation using CAD and BOM data & JEDEC component library
* Closed loop soldering by temp control allows fast setup, eliminating temperature profiling of individual solder joints, and allows small lot production starting from a single board
* High soldering quality with precise and repeatable heating
* Bottom Soldering allows using the system without component supporting fixtures and board flip-over
* A significant saving of time and money by eliminating the use of protective fixtures
* Contemporary design
* Automatic & continuous calibration of laser power and IR temp sensor

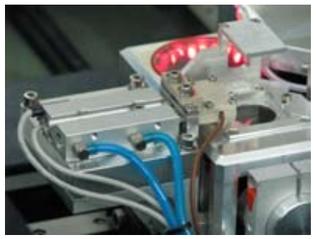


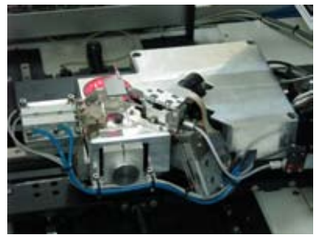
System Features

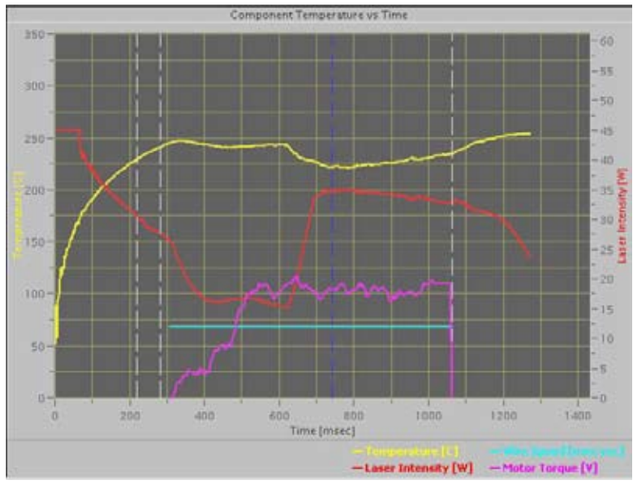
* Vision system for auto-alignment using board fiducials
* Using standard CAD and BOM files and utilizing on-board component library of components geometry
* Win 2000 operation system and comfortable GUI
* Average soldering time of 2-3 sec per joint
* Full SMEMA support allows in-line operation
* In-line or Stand Alone operation

Operation Principle









Typical Applications

* Soldering of:
  * Connectors and Sockets
  * Through Hole (TH) RF Shields
  * Odd Shape Components
  * Automotive Parts (e.g. Solenoids, Relays etc.)
  * Jumpers etc.
* Low cost substitute of selective wave soldering

Selectiva Xi

Technical Specifications

Performance

Component Types	Through Hole Components (Connectors, Sockets etc.)	
Pins Pitch	1.27 mm [50 ml]	
Throughput	Minimum 0.9-1.1 sec per joint	Nominal Speed for 1.6 mm Board Thickness and 0.4 mm Diameter Lead
Wire Feeder	DC Motor with End of Wire Detector	Min. Wire Diameter-0.5 mm (0.020”) Max. Wire Diameter-0.7 mm (0.028”)
Operation Modes	Manual	Laser head moves form pin to pin. The next movement and soldering are activated by operator command
	Auto	Soldering sequence is performed by combining CAD file and data taken from machine components library
Input Data	Standard CAD Files	Also Requires BOM File
	Combined CAD and BOM	
	Converted P&P Machine File	Using On-Board File Converter
	Components Library Size	> 300 TH Packages

General Specifications

Standards	SMEMA	
	CE	
Vision System	Cameras	RS-170 640*480 Pixels
	FOV	15*12 mm (0.6”*0.5”) Field Size
	Depth of Field	3 mm (0.12”)
	Illumination System	LED Illumination Ring
Conveyor System	Max Board Dimensions	390*380 mm (15.3”*14.9”)
	Min Board Dimensions	40*28 mm (1.6”*1.1”)
	Min Board Thickness	1.0 mm (0.04”)
	Max Board Thickness	3.6 mm (0.14”)
	Edge Clearance	4 mm (0.16”)
	Top Side Clearance	50 mm (2”)
	Bottom Side Clearance	23 mm (0.9”) [33 mm - Optional]
X-Y System	X-Y Mechanism	XY Servo Motors with Anti Backlash Lead Screws
	Motion Accuracy (3σ)	50 mil (2 mil)
	Motion Repeatability (3σ)	20 mil (0.8 mil)
	Max Speed	200 mm/sec (7.9”/sec)
	Max Acceleration	3000 mm/sec² (118.1”/sec²)
	Fiducial Finding Repeatability	10 µ (0.4 mil)

Programmable Power, Laser Heat Source

Laser Type	CW (Continuous Wave)	980 mm, 75W Max Power
	Diode Laser / Fiber Coupled	0.4 mm (0.02”) Fiber Core Diameter
Cooling System	Thermo-Electric Cooling System	Closed Loop Temperature Controller
Laser Endurance	10,000 Hours (min)	
Laser Driver	Current Source-Up to 100 A at 7.5 Volt	Computer Controlled In the Range of 0-75W
Spot Size	2.5 mm (0.1”)	
IR Sensor (for temperature measurements)	Resistive Type	
Optics	Magnification of 1:6	Video Camera Bore Sighted with the IR Sensor and Laser Optics