

# mie™ MVA

## The New Exposure Frame with Automatic Film and Panel Alignment



- Automatic CCD supported panel and artwork alignment for outer-layers, inner-layers and solder mask
- Panel positioning system manipulates the panel using two pins
- Miniaturized CCD cameras and software package for visual object recognition
- Vision system can work with a wide variety of target schemes and allows to measure the position of 2 or 4 targets
- Each glass incorporates an integrated film vacuum system for mounting the artwork to the glass
- The thermal hardened glass has high transparency to UV-rays
- Film to film alignment is maintained through proven Multiframe high precision, hardened 3-point guide system
- The MVA adjusts automatically to different panel thicknesses
- The software is based on Windows XP® platform
- Touch screen for easy operation
- The frame can be easily adapted and installed into most common exposure units

# The New mie™ Multiframe MVA

The MIE™ MVA is the new exposure frame with automatic film and panel alignment. The MIE™ MVA is engineered and produced in cooperation between mie™ Germany and MULTILINE TECHNOLOGY™ USA. It is a single side and double side exposure

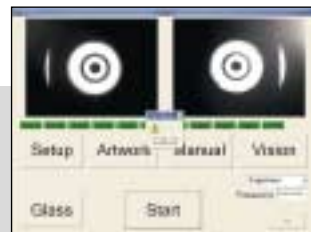
frame that can be utilized for imaging inner-layers and outer-layers as well as solder mask. The system is a complete drawer replacement frame with interchangeable glass that easily adapts to most of the existing manual exposure units.

## The mie™ Panel Positioning System (PPS)

3 lead screws are stepper motor driven and controlled via USB. The screws position the transfer plate in X, Y1 and Y2. Two pins on the front edge of the transfer plate connect the PPS to the panel and transfer the movements. The pin positions can be customized in diameter and position.

The Panel Positioning Systems (PPS) is also used for artwork to artwork alignment:

- After set-up, artwork to artwork alignment is maintained through the well known MIE 3 point guide system
- Artwork alignment is monitored during production and, if required, readjustment can be performed



## The mie™ Camera Positioning System (CPS)

Two USB CCD-Cameras are installed and they can be used in a 2 or 4 target mode for highest possible accuracy in artwork to artwork and panel to artwork alignment. The cameras are adjustable in viewing angle to avoid parallax problems. Two arms are holding each camera whereby 2 shuttles on a linear rail are moving the arms. 2 stepper motors with timing belts control the shuttle position and therefore the position of the cameras. The stepper motors are controlled by USB controllers.

## More features of the mie™ MVA

A Venturi vacuum system is used for holding the lower glass in place and two independent Venturi vacuum systems are used for mounting the top and bottom artwork. Thermal hardened glass is used and the top glass is mounted with brackets, movable in the upper frame. A simple punch is required for the two holes in the art-

work for the pins of the PPS (Panel Positioning System).

The systems work with a touch screen user interface for a Windows XP™ based software with multi language support and PC-Anywhere™ Host for remote support via modem or TCP/IP.

**Precision Made in Germany**



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