

First Technology for Parallel Automatic Printed Circuit Boards Inspection and Verification

August 4 2004

ORBOTECH LTD. today announced the introduction of its patent-pending automatic verification-in-parallel (AVIP) technology for use in automated optical inspection of printed circuit boards (PCBs).

Featuring specially-designed automatic verification capabilities, and combined with Orbotech's proven Verification-in-Parallel (VIP) technology, the new AVIP technology enables both inspection and verification of the PCB to be conducted simultaneously, on one system and using only one operator, resulting in a reduction by up to half of the AOI cycle time and corresponding substantial production cost savings compared with other available AOI solutions.

AVIP technology will initially be incorporated into the Company's Spiron(TM) AOI series, making Spiron-AVIP the world's first system capable of automatically verifying PCB defects detected during its own inspection process.

Commenting on the announcement, Mr. Asher Levy, President of the PCB Division at Orbotech Ltd., said: "We believe this to be one of the most important changes in PCB-AOI technology since its introduction over 20 years ago. Although AOI has always been automatic, verification has been completed manually using a separate workstation and numerous human operators. This, in turn, has prolonged production time, increased the risk of human error and diverted valuable floor space. AVIP

revolutionizes this entire operation by automating the verification process and incorporating it into the AOI system in a parallel - not sequential - operation mode, without compromising inspection quality or yield. By using the Spiron-AVIP our customers can achieve significant increases in end-to-end throughput and substantial cost-savings throughout their AOI operations."

AVIP is an altogether new technology offering a highly original approach to the detection of defects and the reduction of false calls. Leveraging Orbotech's extensive experience with Vision(TM) ultraviolet laser-fluorescence technology, AVIP utilizes fluorescent illumination to supplement robust color reflective illumination. Defects identified during the inspection process are automatically re-examined, using an ultra high-resolution fluorescent image and newly-developed post-processing algorithms, to ensure enhanced detection of critical defects on mixed, inner and outer layer applications. Spiron-AVIP's innovative dual-table operation allows automatic inspection and verification to be performed in parallel on the same table, resulting in rapid and accurate detection and enabling highly efficient loading and unloading. The system can inspect - and simultaneously verify - as many as 200 sides per hour for 5 mil line technology, which no other currently available AOI system can achieve.

Except for historical information, the matters discussed in this press release are forward-looking statements that are subject to certain risks and uncertainties which could cause the actual results to differ materially from those projected, including industry trends, the timing and strength of product and service offerings, changes in business or pricing strategies, changes in the prevailing political and regulatory framework in which the relevant parties operate or in economic or technological trends or conditions, including currency fluctuations, inflation and consumer confidence, on a global, regional or national basis and other risks detailed from time to time in the Company's SEC reports. The

Company assumes no obligation to update the information in this press release.

The original press release can be found [here](#).

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