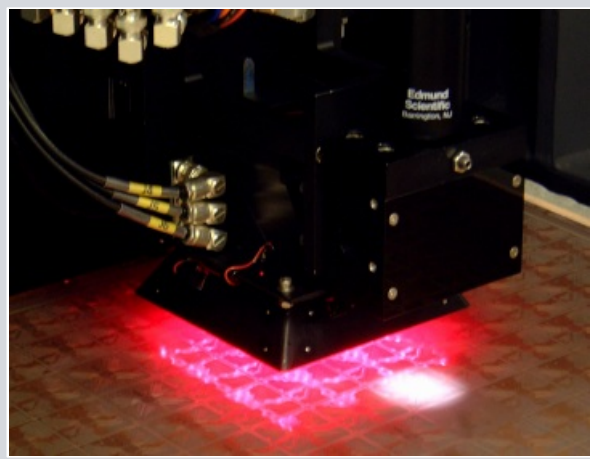


***redline* is a valuable member of the Lloyd Doyle range of Automatic Optical Test (AOT) systems for bare printed circuits boards. It offers flexibility for all types of contemporary pcb materials.**



redline provides cost effective and flexible optical test on all copper clad laminates including low contrast materials such as RTF, DSTF and double treat; in addition, *redline* is able to perform a discerning optical test at the phototool and dry film photo-resist stages of pcb production.

redline is available as a stand alone system or as an imaging upgrade to existing AOT machines. It comprises a new illumination system including optics and electronics and a new imaging system that are integrated with proven components from the *EXCALIBUR* AOT range. A new-style light dome illuminates the pcb or artwork prior to a new CCD camera sub-system capturing the working image. This allows a good working image to be gained from even the most difficult substrate/circuit combinations. The resultant digital image is then analysed by the complex AOT fault detection algorithms to detect all functional and cosmetic faults on the pcb image.

redline is available with a choice of camera resolutions allowing the system to scan images from the entire range of pcb production from regular mass produced pcbs to fine line prototype work. As with all other AOT systems, *redline* is able to communicate with any proprietary front-end CAM station for the download of optical test reference data in the form of per-layer netlists and / or bitmap files. This permits rapid on-line set-up and scanning of the pcbs, finding all types of faults quickly and accurately. Verification and repair can be done either on-line using a CCTV system or off-line using any of the Lloyd Doyle repair stations. Either way, *redline* offers fast and effective fault detection at all stages of pcb production. *redline* reflects the continuing development of AOT systems to cope with the changing demands of the pcb manufacturing industry.

A detailed specification appears overleaf.

SPECIFICATION

Panel size:

24" x 30"
610mm x 760mm

Inspection size:

20" x 25" (500mm x 635mm)
Note: Larger scan sizes are possible using custom large format machines to a maximum of 39" x 78" (1m x 2m)

Throughput:

From 600sq.ft/hour to 200
sq.feet/hour (60m² to 20m² per hour)
Dependant on system specification

Resolution options:

10.0μ giving scanning of 3 mil (75μ)
minimum lines /spaces
7.5μ giving scanning of 2 mil (50μ)
minimum lines /spaces
5.0μ giving scanning of sub-2 mil (sub-
50μ) minimum lines / spaces

Faults detected:

All functional and cosmetic
faults found using a combination of netlist
and comparison algorithms

Fault verification and repair:

On-line using CCTV system
Off-line using either:
Penmarking option or
Sabre repair station

Dimensions:

Width 1.47m
Depth 2.09m
Height 1.6m
Weight 1.1 tonnes

Materials

Most production materials including:
Bare Copper laminate
Double Treated Copper
RTF/DSTF Coppers
Phototools
Photoresist on Copper
Inner layers
Outer layers

Product Types:

Signal images
Power/Ground images
Mixed Signal/Power/Ground images
Drilled, SMD and mixed pattern outer
layers
Microvia technology

Facilities:

LAN connection for all data
communication
CCTV and graphics images of all faults
Multi language display
Engineering diagnostics

Options:

On-line Pen-marker system
Pinless registration
Flip-side test facility
SPC and fault plotting software
Microvia hole inspection facility
Extended HDD storage facility
Remote diagnostics
Raster image reference



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