ADIX
LEDs DMD

ADVANCED DIRECT IMAGING
by ALTIX

HIGH POWER UV LEDS

HIGH POWER LEDs

ALTIX
ADIX SA

AUTOMA-TECH

ALDS-Power4+™

ALTIX
LED
Green
Technology

ALDS-Power4+™
High Power LEDs
High Resolution DMD

ALTIX
AUTOMA-TECH™

Direct Imaging with us!

ADVANCED DIRECT IMAGING by ALTIX

Enhanced 4 LEDs Photo Heads
for Higher Productivity and
Printing Quality

ALDS-Power4+™
Advanced High Power 4 LEDs
with High Resolution DMD System

Fully Intuitive Human Machine Interface

From Conventional Dry Films to
Ink and Solder Resists

Real Time Panel Dynamic
Scaling and Partitioning

Low Power Consumption

Compact Footprint:
All in One Built-In System

Minimum Service
Maintenance Required

High Accuracy Registration System

Best in Class Side to Side
Registration

Panels Held Down by Vacuum
Table and/or Clamping System

Rigid and Flex PCB Smooth Handling

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ADIX Specifications

Panel		
Panel size	From 228 x 254mm up to 610 x 762mm	From 9''x10'' up to 24''x30''
Panel thickness	0.04 to 6mm	1.6 to 236mils
Warp and twist	0.04 to 0.8mm	1.6 to 31mils • panel thickness: 1% of the diagonal
	0.8 to 6mm	31 to 236mils • panel thickness: 0.5% of the diagonal
Weight	6kg max (13.22lbs)	

Imaging			
Resolution - L/S	10/10µm | 0.4/0.4mil [1]	20/20µm | 0.8/0.8mil [1]	50/50µm | 2/2mils [1]
Resolution - DAM	NA	25µm | 1mil	50µm | 2mils
Edge Roughness	± 0.5µm	± 1.5µm	± 3µm
Depth of Focus	100µm	200µm	400µm
Autofocus	± 8mm | ± 315mils		
Image to panel registration	± 8µm | ± 0.31mil		
Side to side registration	± 12µm | ± 0.47mil		

Throughput	
Exposure time	14s with 30mJ/cm^2 resist for 457 x 610mm (18''x 24'') image size (6 heads) [2]

Process	
Imaging resist materials	Conventional dry films or specific for DI • Ink & solder resists
Resist sensitivity	From 10 to 1,250mJ/cm^2 and above
Exposure spectrum	4 wavelengths per Photo Head: 365/380/395/405nm
Applications	PCB • FPCB / Flex • Photo Chemical Milling • IC Substrate • Touch Panel
Production types	Inner Layers • Outer Layers • Soldermask (PSR)

Graphic User Interface	
ALTIX Direct Imaging Suite™	22'' touch screen, intuitive software, object oriented, SPC capabilities, multilanguage
Data input	Extended Gerber, ODB++ (others upon request)

General utilities & Foot print	
Power supply	220/400/480V • 50/60Hz • 4kW
Air supply	6 bars | 1.5m^3/min
Water supply	Water pressure 3~5 bars • Flow rate: 23l/min @ 12°C or 33l/min @ 14°C
Machine weight	3,500kg (7,716lbs)
Dimensions	L : 2,870mm (113'') W: 1,750mm (69'') H : 1,870mm (74'')

(1) depending on photoresist, surface preparation & DES process • (2) estimated time given as reference but can fluctuate according to the process adjustments
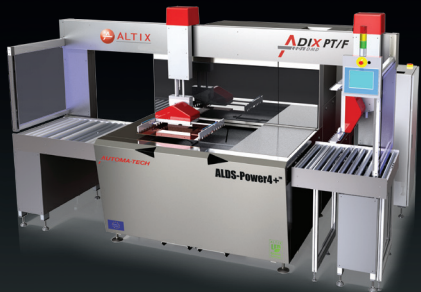
Direct Imaging with us!

ADIX Semi-Automatic & Fully-Automatic Direct Imaging Product Range

Adix SA
Semi-Automatic
Panel to Panel DI Exposure

Semi-Automatic Direct Imaging solution for QTA, high-mix low and medium volume production dedicated for all processes: Inner Layers, Outer Layers and Soldermask (PSR)
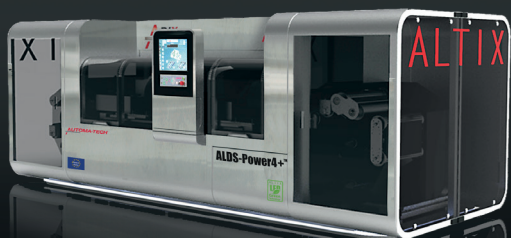
Adix PT / F
Pass-Through / Flip
In-Line Automation
Fully Automatic Double Side

Integrated automation for fully-automatic Direct Imaging process in-line or island of automation.

Pass-through double-sided production with "in the air" flip.

This compact automation is dedicated for all resists: dry film & solder resists and upgradable on site

Adix RtR
Roll to Roll DI Exposure
Fully-Automatic

ADIX Roll to Roll is a fully automatic Direct Imaging designed as a single sided Roll to Roll exposure system for fine line resolution, tight registration and high throughput capabilities.

It can handle all types of web for Flex Printed Circuit Boards, Photo Chemical Milling, Touch Panel, Thin Film Photovoltaic, etc...
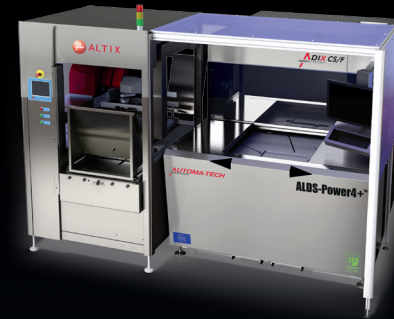
Adix CS / F
Compact Standardized / Flip
Compact - Island of Automation
Fully Automatic Double Side

The system is designed to automatically load and unload panels into an ADIX Direct Imaging system from either angular or slot cassettes.

An automatic flip & cleaning functions are integrated. The system is able to handle multiple batches and different panel sizes.

This compact automation is dedicated for all resists: dry film & solder resists and upgradable on site
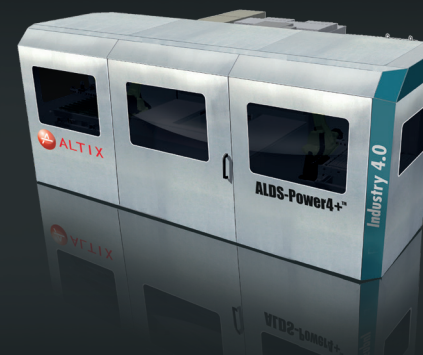
Adix Customized Solutions

ADIX units can be incorporated with various Customized "Smart Automation" solutions in order to match with all specific Customer's needs.

This solution is adequate for small lot sizes, high-mix and high-volume production

ADIX Advanced Features

ALDS-Power4+™

Advanced high power Leds with high resolution DMD System. The heart of the system is a creative combination of 4 high-density LEDs light sources through a unique optical device coupled to a high frequency (up to 20kHz) DMD coordinated with a graphic signal and projection lens.

This combination enables our ADIX solution to perform high-resolution line and space down to $10\mu m$.

Real time Scaling & Partitioning

Highly accurate real time scaling and distortion compensation technology responds to the PCB material variations.
Each digital image can be scaled to match with the panel distortion.

For each panel, different scale factors can be applied with dynamic imaging modes: linear (Trapezoidal scaling, Orthogonal scaling) and non-linear (Polygonal scaling).

High Accuracy Registration

A multiple CCD cameras vision system enables featuring image to panel registration down to $\pm 8\mu m$ for high-end HDI designs.
Our solution can align the panel via a through hole or various alignment marks.
Our side-to-side registration for inner layers enables high accuracy alignment down to $\pm 12\mu m$ thanks to our exceptional registration system with adjustable points fitting the panel size.

Smart Vacuum & Clamping Technology™

A unique Vacuum & Clamping mechanism offers an automatic selectable vacuum system.
Vacuum and clamping are automatically monitored according to the panel size.
This clamping system can safely hold warped PCBs and handle panel thickness from $40\mu m$ to 6mm.
In addition, with the autofocus function, it allows a perfect imaging compared to other systems having only a vacuum table without clamping mechanism.

Before correction   After alignment
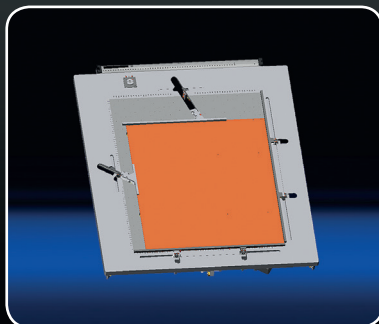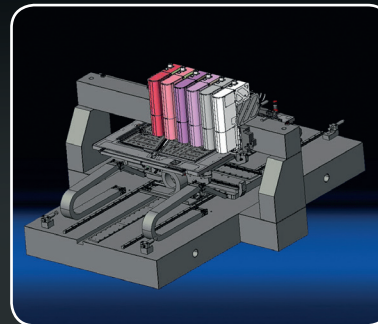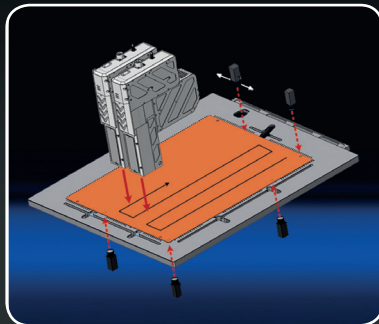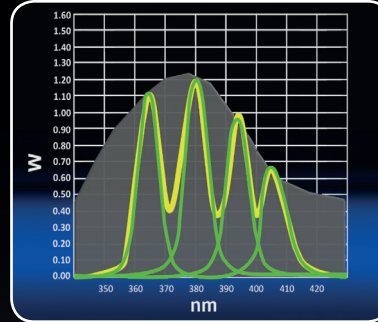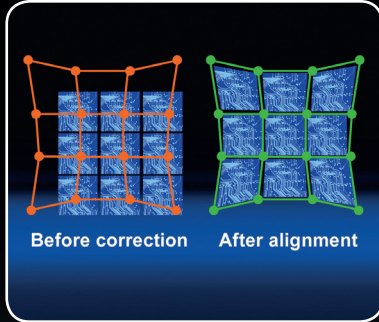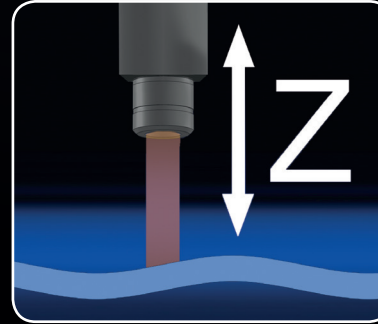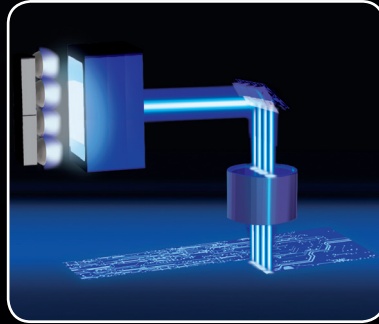
High dynamic Autofocus Function

Highly precise and dynamic autofocus system is integrated inside each imaging head. The heads get real time feedbacks in order to take into account the warping and surface thickness variations of the board at $\pm 8mm$.

This state of the art tool plus the depth of focus of the head, which allows imaging in a consistently suitable state, drastically reduce the occurrence rate of imaging errors.

Multi-wavelengths UV-LED

The combination of different UV light wavelengths enables to polymerize a large range of dry film, ink and solder resists. With 4 LED wavelengths (365/380/395/405nm) and by adjusting the output ratio, it is possible to obtain the most efficient and fast printing for each type of dry resists or soldermask.
UV-LED consumes less energy, generates less heat, and lasts much longer than typical laser diode or blue laser based on light sources.

Number of Light Engines depending on your capacity. Upgradable on Site

Our modular and flexible imaging technology ALDS-Power4™ can be adapted to your throughput requirements. Also, the number of Photo Heads can be chosen accordingly when defining your new Direct Imaging equipment. This number of Photo Heads can be enlarged from 1 to 6 (2 to 6 for RtR) anytime in the future to match with your expanding needs.
This incremental investment enables to have a fully optimized system, which means a quicker Return Of Investment.
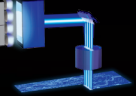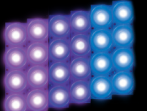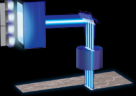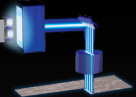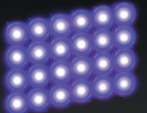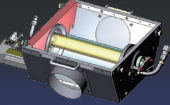
Human Machine Interface (HMI)

Fully intuitive interface enables a friendly-user utilization for the operators. A state of the art touch screen graphical user interface enables an easy operating such as: quick job setups, parameters monitoring, full diagnosis, or process optimization.

Our powerful software "ALTIX Direct Imaging Suite™" offers more with multilingual capabilities and our statistical module "Altix Statistical Process Control Module".

ALTIX, over 30 years of innovations and performances!

Light Engines

Year	Product
2018	ALDS-Power4+™
2017	LedLight™MACH3
2016	ALDS-Power4™
2015	ALDS
2012	LedLight™
2009	OptiLight™
1997	Diffuse™
1992	ColliLight™

Timeline Product Launch

Year	Product
2018	Adix CS / F / Adix RtR
2017	Afosa LedLight Mach3 / Acura LedLight Mach3
2016	Acura Premium
2015	Adix SA
2014	AcuReel
2013	Afosa Led
2012	Acura DSS
2011	Acura LedLight
2007	Acura
2005	Arrow
2002	Afosa ie
1998	Evol2b RtR
1996	Evol2b
1993	Evolution 1

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imaging with us!

INDUSTRY 4.0

Made in France

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