SMT First Article Inspection System
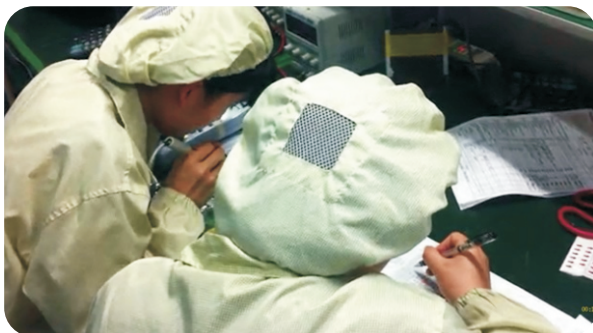
FAI-600IV

FAI-600IV

First Article Inspection System

Powerful First Article Inspection System offering unparalleled automated manufacturing verification test and reporting capabilities.

The BLUIRIS FAI-600IV First Article Inspection System quickly and accurately verify First Article Samples. Using advanced optical and computing techniques, the FAI-600IV measures properties of an initial sample against the specifications. Tests conducted include checking whether a correct component has been used, whether a component is in the defined location, and whether a component is positioned accurately. The values of components such as resisters, capacitors and inductors can be automatically checked and verified. The system can eliminate up to 99.99% errors due to manual inspection methods. Test results are provided in insightful, detailed reports.

VS

First Article Inspection Introduction

1、Save Labor Cost

With traditional methods and approaches, the first inspection process typically requires at least two operators to perform the task. With the FAI-600IV , only one operator is required.

2、Save Time

Reduce the time it takes to perform first article inspections by up to 80%.

3、Improve Quality

Eliminate up to 99.99% of errors caused by manual methods.

4、First Article Inspection Report

Comprehensive reporting including pass/fail information, observed values, and insightful charts and graphs. Reports can be viewed, printed, saved or emailed.

5、Easy to use

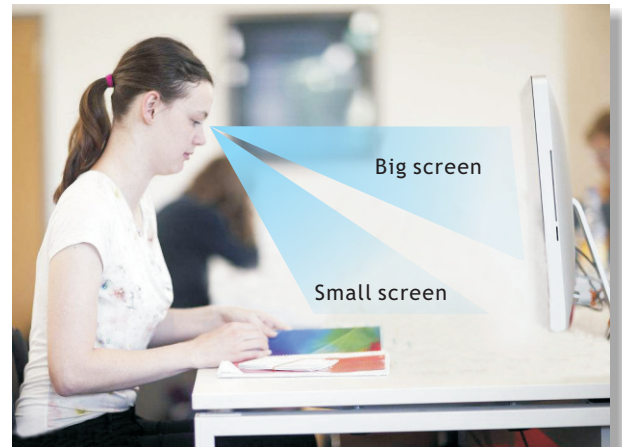Intuitive and easy to use. FAI-600IV operators can to learn to use the FAI-600IV in under two days.

6、Multiple Customer Deployments

FAI-600IV systems are deployed at hundreds of customer sites. Representative customers include Benchmark, Celestica, VALEO,VIVO. See more of our customers in back cover
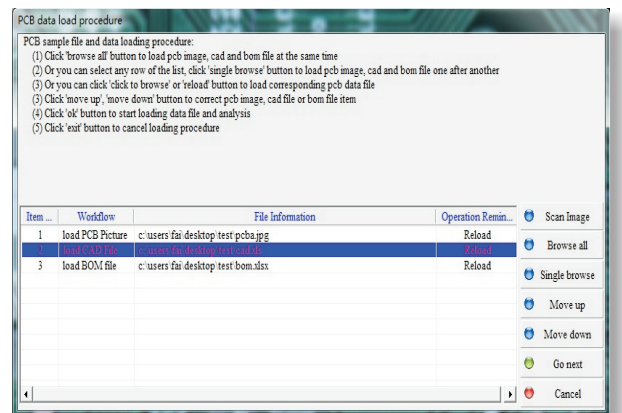
![Bluiris 蓝眼科技]

Duet Display

We provide two displays. Big one shows all the information, the other one just show the current work window. The operator need not raise her/his head frequently.

Big screen

Small screen

Programming

Auto generate a test program in under 5 minutes.

PCB data load procedure

PCB sample file and data loading procedure:
(1) Click 'browse all' button to load pcb image, cad and bom file at the same time
(2) Or you can select any row of the list, click 'single browse' button to load pcb image, cad and bom file one after another
(3) Or you can click 'click to browse' or 'reload' button to load corresponding pcb data file
(3) Click 'move up', 'move down' button to correct pcb image, cad file or bom file item
(4) Click 'ok' button to start loading data file and analysis
(5) Click 'exit' button to cancel loading procedure

Item ...	Workflow	File Information	Operation Remin...		
1	load PCB Picture	c:\users\fai\desktop\test\pcba.jpg	Reload		Scan Image
2	load CAD file	c:\users\fai\desktop\test\cad.cls	Reload		Browse all
3	load BOM file	c:\users\fai\desktop\test\bom.xlsx	Reload		Single browse
					Move up
					Move down
					Go next
					Cancel

Auto check

For components without markings, a built-in LCR meter can perform test measurements for inductance, capacitance and resistance; the FAI-600IV automatically changes the test frequency based on BOM information.

The current exporting list has totally 419 components, including passed 7, fail 3, non-detected 409

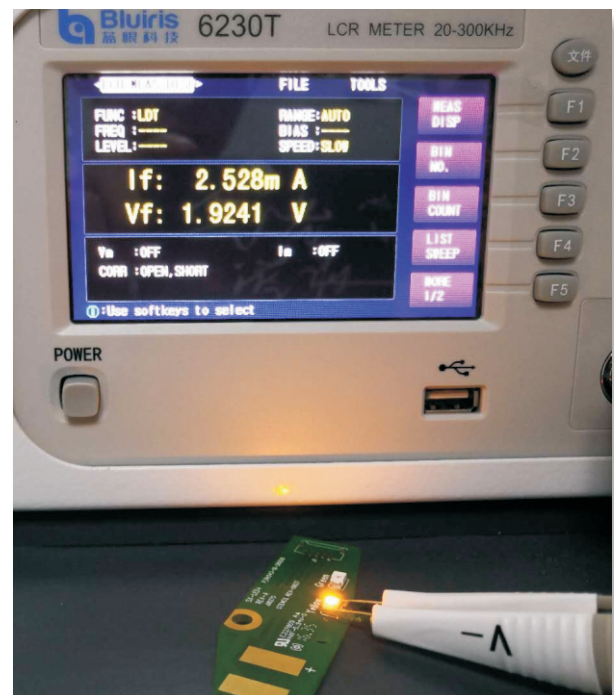| Item No.	Location	Coord.(x, y)	Description	Part No.	Measured Value	Result	Remarks
72	C77	(46.500,48.750)	CAP,1206,10uF,16V,+80%-20%,Y5V	121039010106	8.836651uF	✔ PASS	
73	C300	(104.600,51.200)	CAP,1206,10uF,16V,+80%-20%,Y5V	121039010106	8.793283uF	✔ PASS	
74	C46	(56.500,48.000)	CAP,0603,1nF,16V,±10%,X7R	121003000102	0.971165nF	✔ PASS	
75	C1	(109.750,70.500)	CAP,0603,1uF,16V,+80%-20%,Y5V	121039010105	2.028052uF	✘ NG	wrong material

Auto optical inspection and "Golden Board"

For components with silk screening, the FAI-600IV system checks all components in under a minute. AGolden Boardcan serve as a test reference.
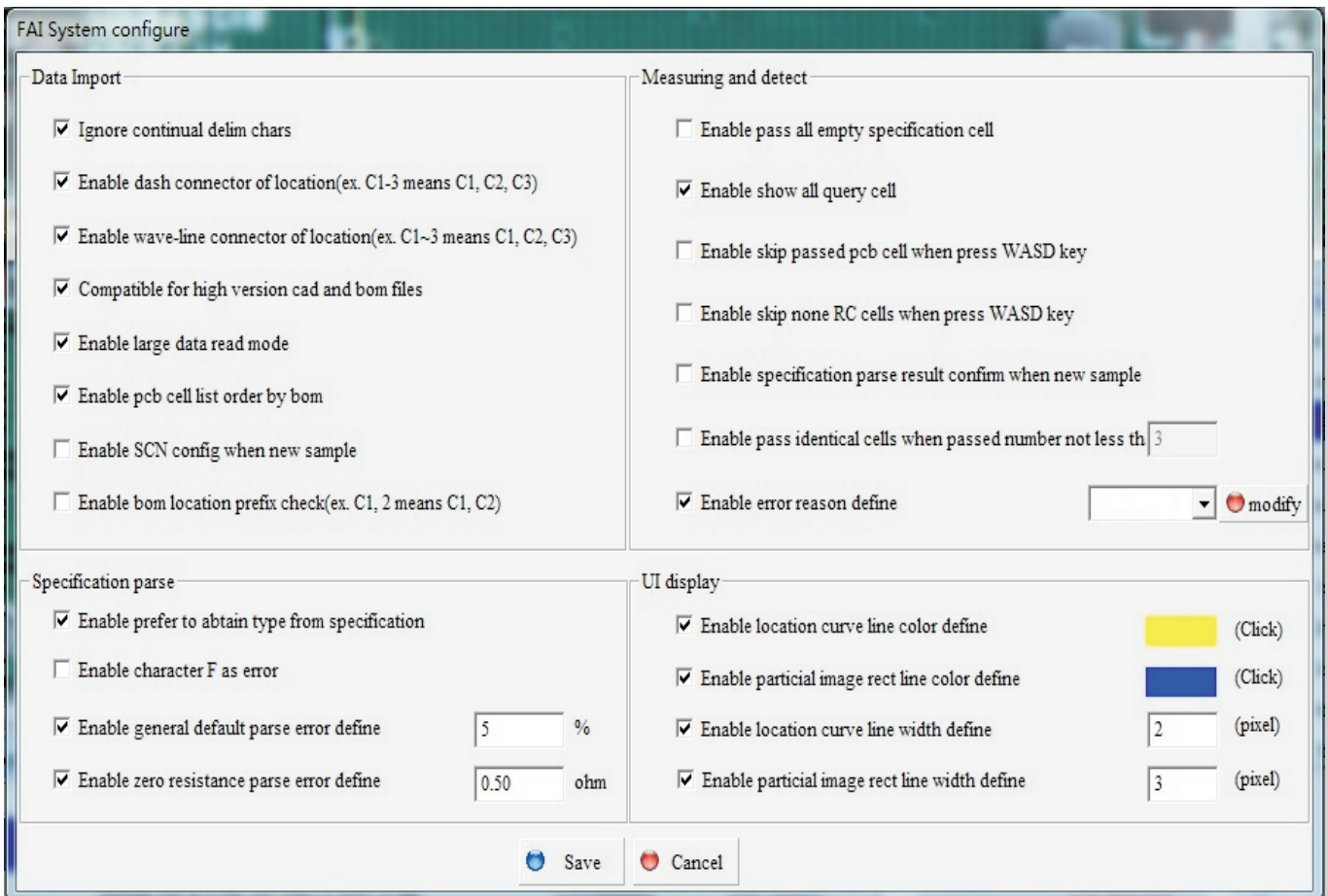

丝印自动对比结果

NG

模板图:　　　　　　　对比图:

CHF 6.0000-28　　CHF 6.0000-30

共209个元件，当前选中第185个元件!　　☑ 自动跳过通过元件

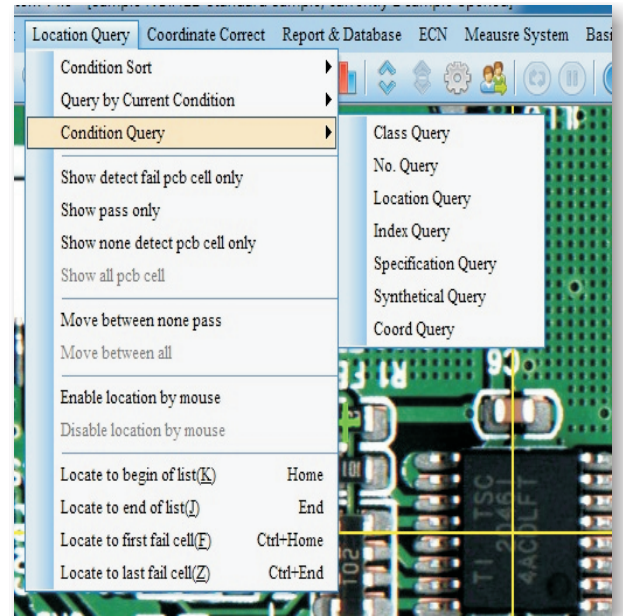| 序号	位号	规格	OCR	旋转角...	匹配度
248	TR2	TRANS PMV32...		-1.59	0.88
249	TR3	TRANS PMV32...		-1.93	0.96
250	TR4	TRANS PMV32...		-2.61	0.95
251	XL1	OSC(SMD)6.000...		0.00	0.65
252	U17	MSL1锌仔C(SM...		-180.00	0.84

左旋90度　　右旋90度　　反转180度

LED &Diode Test

LCR meter provides LDT function additionally, light on testing on LED, and conductivity test on diode.

Bluiris 蓝眼科技 6230T LCR METER 20-300KHz

Detailed Search

Report data can be viewed and sorted in a number of different ways. For example, components can be sorted according to whether they have passed or failed a test, or by their part numbers.

Location Query menu (partial screenshot):

| Location Query | Coordinate Correct | Report & Database | ECN | Meausre System | Basi |

- Condition Sort ▶
- Query by Current Condition ▶
- Condition Query ▶
  - Class Query
  - No. Query
  - Location Query
  - Index Query
  - Specification Query
  - Synthetical Query
  - Coord Query
- Show detect fail pcb cell only
- Show pass only
- Show none detect pcb cell only
- Show all pcb cell
- Move between none pass
- Move between all
- Enable location by mouse
- Disable location by mouse
- Locate to begin of list(K)   Home
- Locate to end of list(J)   End
- Locate to first fail cell(F)   Ctrl+Home
- Locate to last fail cell(Z)   Ctrl+End

FAI System configure

Data Import
- ☑ Ignore continual delim chars
- ☑ Enable dash connector of location(ex. C1-3 means C1, C2, C3)
- ☑ Enable wave-line connector of location(ex. C1~3 means C1, C2, C3)
- ☑ Compatible for high version cad and bom files
- ☑ Enable large data read mode
- ☑ Enable pcb cell list order by bom
- ☐ Enable SCN config when new sample
- ☐ Enable bom location prefix check(ex. C1, 2 means C1, C2)

Measuring and detect
- ☐ Enable pass all empty specification cell
- ☑ Enable show all query cell
- ☐ Enable skip passed pcb cell when press WASD key
- ☐ Enable skip none RC cells when press WASD key
- ☐ Enable specification parse result confirm when new sample
- ☐ Enable pass identical cells when passed number not less th [3]
- ☑ Enable error reason define   [▼] ● modify

Specification parse
- ☑ Enable prefer to abtain type from specification
- ☐ Enable character F as error
- ☑ Enable general default parse error define   [5] %
- ☑ Enable zero resistance parse error define   [0.50] ohm

UI display
- ☑ Enable location curve line color define   [yellow] (Click)
- ☑ Enable particial image rect line color define   [blue] (Click)
- ☑ Enable location curve line width define   [2] (pixel)
- ☑ Enable particial image rect line width define   [3] (pixel)

[● Save]   [● Cancel]

Report

Each report includes the company's name, test time, operator's name, model number, total number of components, how many components passed and failed. The measured values of all components and their nominal values are also shown. Reports can be viewed, printed, saved or emailed to customers.
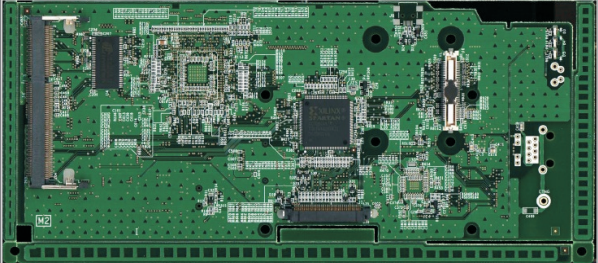

First Article Inspection Report

Conclusion :	PASS		Pass Rate :	100%
Campany:	HPG		Detector :	QA002
Sample :	TEST001		Lot No. :	
Cutomer :			Batch Qty. :	
Scanning Dur. :	00:01:50		Process Dur. :	00:01:05
Measuring Dur.	00:34:28		Report Date :	00:00:20
Producing Date	2015-03-11		Total Inspec. :	419
PASS :	419	NG : 0	Non-detected :	0

Overall Picture for PCB

No.	Ref Des	Part No.	Item Description	Thumbnail	Stand. Pic.	Measured valu	Remarks
5	C17	121803020104	CAP,0603,0.1uF,50V,+80%-20%,Y5V			0.105442uF	PASS(Auto)
7	C37	121803020104	CAP,0603,0.1uF,50V,+80%-20%,Y5V			0.105104uF	PASS(Auto)
56	C74	121806020106	CAP,0805,10uF,10V,+80%-20%,Y5V			8.895354uF	PASS(Auto)
82	C10	121806000225	CAP,0805,2.2uF,16V,+80%-20%,Y5V			2.028108uF	PASS(Auto)

System Docking

FAI system can dock with ERP, MES system, test report can be uploaded or captured by remote server easily.

Ftp report upload setting

Server IP:	192 . 168 . 1 . 111	☑ auto create upload directory
Port:	21	
UserName:	FAI600	
Password:	●●●●●●	
Upload Directory:	FAIReportText	
Local Directory:	D:\FAIERPText	

Item No.	File Format	Upload Allowed?
☑ 001	txt	Allowed
☑ 002	pdf	Allowed
☐ 003	xml	Forbidden

Save   Cancel

FAI-600ⅣFirst Article Inspection

- ■ **Makes SMT efficient**
- ■ **Reduce labor cost**
- ■ **Auto test and check**
- ■ **Improve quality**
- ■ **Optimize work procedures**
- ■ **Trace back**

Comparison between the FAI-600Ⅳ and traditional methods

Criteria	FAI-600Ⅳ	Traditional	Note
Labor	One operator	At least two operators	FAI-600Ⅳ can achieve at least 50% labor cost savings
Speed	Fast	Low to medium	FAI-600Ⅳ reduce test time up to 80%
Accuracy	Very accurate	Uncertain	FAI-600Ⅳ test results are up to 99.99% accurate and reliable
Vision	Clear	Unclear	FAI-600Ⅳ scans PCBs with the latest optical technologies
Verification	Automated	Human	
Report	Detail	Unclear	Reports can be viewed, saved and emailed. They are automatically generated
Auditing	Yes	No	An operator needs to sign in to the FAI-600Ⅳ providing tracking and auditing information

Specifications

Maximum Board Size	410x310mm, larger size needs customized
Maximum Component Height	26mm
Resolution	600-2400dpi
Accuracy	0.05%
LCR Meter Test Frequency	20Hz~500KHz, higher option available
Monitor Size	21.5 inch
Languages Supported	English/Chinese
Power Supply	AC 100~230V 1.2KVA
Dimension	W1305xD800xH1200mm
Weight	170Kgs

*Specification might be changed without notice

OUR END USER AS BELOW

Valeo 法雷奥

Benchmark electronics

Celestica

Panasonic

ASTEELFLASH YOUR EMS PARTNER

ALPINE

美的 Midea

OPPO

vivo Hi-Fi & Smart

DESAY 德赛

Norautron

FORYOU 华阳通用

CYG WAYON

ETRON

SMP

FAI-600IV
SMT First Article Inspection System

HITACHI Inspire the Next

TIE Tung Thih Electronic 同致電子

Ropente 日滨科技

SUGA

DBG

TT Electronics

COMPEQ 華通電腦股份有限公司

Hytera

T&W

兴森科技 FASTPRINT

SMT

KEBODA 科博达 Creating Value.Sharing Progress

TenPao

SERCOMM

Skyworth 创维

Bluiris 蓝眼科技

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