

# SSP INC

TURN YOUR IMAGINATION  
INTO REALITY THROUGH TECHNOLOGY



Ball Placement System / Package Sorter System  
Process Automation System  
Camera Module System



# ABOUT US

## COMPANY INTRODUCTION

### "Turn Your Imagination Into Reality Through Technology"

Our company's philosophy is to provide our customers with highly improved products and specialized service in time. We SSP work hard to develop advanced technology experts through professional training programs and study.

We do our best to prove that SSP is the reliable company by maintaining high technology and conducting constant research and development.

Since 1996, SSP has been manufacturing semiconductor package equipments which enable easy operation, perfect quality concept, and the service system with speedy action according to customer's point of view.

SSP considers customers as our first priority and this will be the best value now and forever.

We will do our best to meet our customer's technological needs having prospect for the future.

We're growing to be the strong company with both high technology and sincere service for customers.



Smart Talent  
Cultivation



Speed Making  
Customer Response



Perfect  
Product Service



Sincerely yours.  
CEO K.H. Lee

## TECHNOLOGY / CERTIFICATE



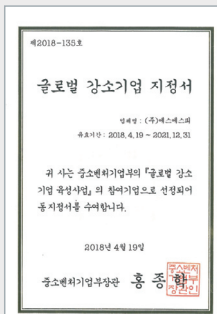
ISO 45001 Certificate



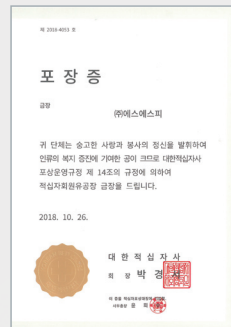
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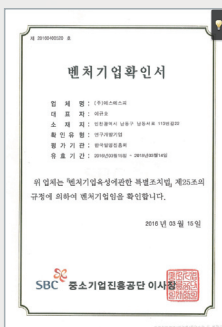
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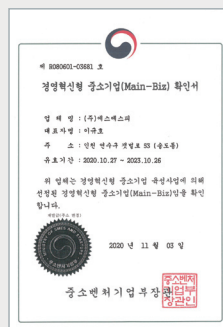
Certificate of Designation as  
Global Small Giant Company



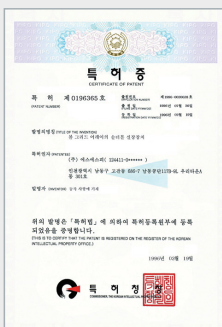
Citation Award from Korea  
Red Cross



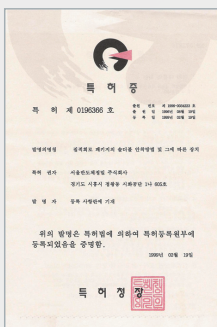
Certificate of Venture Business



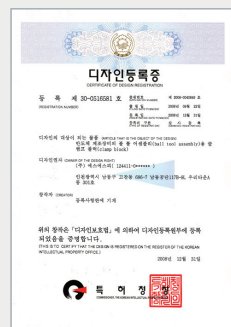
MAIN-BIZ



Patent Certificate



Patent Certificate



Ball tool assembly clamp  
block

## BRIEF HISTORY

Ball  
Placement  
System

Package  
Sorter  
System

Automation  
System

SMT Module  
Automation  
System

Camera  
Module  
System

### 2016 ~ Present

Growing into a global construction leader

Developed New Ball Mount System with Automation

Developed Ball Placement System Dual Head

Developed Filter Inspection System for Camera Module  
ISO 45001 Certification

Selected as Global Small Giant Company

Presidential Citation in venture promotion

The best badge in honor the Red Cross

Registered 40 Patents

### 2006 ~2010

Continued strategy of technological advancement

Developed New Ball Mount M/C (BPS 7200)

Developed Active Align System (8 M Camera Module)

Developed FCBGA Automation Line

CE Certification for Auto Holder Attach System

5 Million US\$ Export Prize(KOTRA- 2007)

10 Million US\$ Export Prize (KOTRA – 2010)

ISO 14000 Certification (2010)

Selected as Export Blue chip Company (Incheon City)

Registered 18 Patens

### 1996~2000

Foundation And Progress

Founded Seoul Semiconductor Precision (1996, 06)

Developed Auto Solder Ball Mount System(PBGA/CA)

CE Certification for Ball Mount System

Developed Auto Lamination System

Developed Semi Auto IC Cutting Equipment (FlexBGA)

Attained Venture Company

Registered 5 Patents for Solder Ball Mounting Tech

## HISTORY

SSP's History Accomplished by Continuous Technology Development

## SSP's History Accomplished by Continuous Technology Development

Realizing Technology for  
Making Imagination into Reality

### 2011 ~ 2015

Shared future together

Established New Factory & HQ (2011)

Developed New Ball Mount System (BPS8200,7200FC)

Developed Multi Pickers Package Sorter System for EMI  
Shield

Developed Wafer Level Micro Ball Mount System

Selected as Hope-to-be-Hired Company

Registered 20 patents

### 2001~2005

Concentrated on technology and quality

Developed Holder Attach System (Camera Module)

Developed Auto Solder Ball Mount System(FC BGA)

Developed Auto Screen Printing System (FC BGA)

ISO 9000 Certification (2004)

Registered R&D Center (KITA - 2004)

Attained INNO – BIZ Company (SMBA – 2004)

3 Million US\$ Export Prize (KOTRA – 2005)

Registered 6 Patents (Ball Mounting & Camera Module)

Move New Factory (Incheon Namdong Industrial Zone)





# PRODUCT

## Ball Placement System

Micro Solder Ball Mount Technology



### PATENT

#### BPS

- Ball Grid Array Solder Ball Mount System
- Integrated Circuit Package Solder Ball Mount Method and its following System
- Ball Supply System in terms of Ball Dispenser
- Inline System for Marking and Ball Mounting in terms of Semiconductor Manufacturing Process
- Solder Ball Mount Equipment Standard Value Modification Method and Computer readable recording Medium
- Solder Ball Bumping Unit and its covering Wafer Bumping Equipment and its using Bumping Method
- Solder Ball Bumping Unit having assembly means and its covering Wafer Bumping Equipment and its using Bumping Method

- Material Alignment System
- Electronic Gripper and its covering Automatic Process Equipment and its using Material Transport Method
- Solder Ball Mount Equipment for improving production
- Automatic Work-position Modification Method using standard value and its automatic equipment
- Ball Mount Equipment including inkjet Flux tool applying inkjet
- Material Transport System and its using Material Transport Method having aligning material
- Solder Ball Supplying System
- Solder Ball Mount Equipment Flux Tool

#### wBPS

- Solder Ball Supply System using Air Movement
- Wafer Bumping Equipment and its using Bumping Method
- Solder Ball Supply System using Air Curtain

- Ball Supply System and its using Solder Ball Bumping
- Solder Ball Supply System
- Solder Ball Supply System using Wire Brush

### BPS-8200 Ball Placement System



#### System Performance

Cycle Time : 12~14 Sec (Normal Package(1 Dotting/Strip))  
25~30 Sec (Fine Pitch Package(2 Dotting/Strip))  
40~45 Sec (Fine Pitch Package(2 Dotting/Half Strip))

Yield Performance : 99.98%

Placement Accuracy : +/- 0.02mm

Fine Pitch Capability : 0.100mm\_Ball size / 0.180mm\_Ball pitch

Strip Handling Capacity : 50 ~ 95mm Width × 180~260mm Length

Product Flexibility : All kinds of laminated Substrate BGA Package series

Quick Conversion Time : Ball tool, Flux tool, Lift Block

Foot Print & Weight : 2,300(L)×1,350(W)×1,820(H)

Foot Weight : 3,000kg

#### BPS-8200 Process (Stand-alone type : Magazine input)

MOLD MARKING REFLOW → SOLDER BALL → ATTACH

### BPS-8200S Ball Placement System



#### System Performance

Cycle Time : 12~14 Sec (Normal Package(1 Dotting/Strip)) /  
25~30 Sec (Fine Pitch Package(2 Dotting/Strip)) /  
40~45 Sec (Fine Pitch Package(2 Dotting/Half Strip))

Yield Performance : 99.98%

Placement Accuracy : +/- 0.02mm

Fine Pitch Capability : 0.100mm\_Ball size / 0.180mm\_Ball pitch

Strip Handling Capacity : 50 ~ 95mm Width × 180~260mm Length

Product Flexibility : All kinds of BGA Package series

Quick Conversion Time : Ball tool, Flux tool, Lift Block, Stripper(Optional)

Foot Print & Weight : 2,300(L)×1,350(W)×1,820(H)

Foot Weight : 3,000kg

#### BPS-8200S Process (Inline type: Substrate Input)

MOLD → MARKING → SMT → SOLDER BALL ATTACH → REFLOW



## BPS-7200BS Ball Placement System



### • System Performance

Cycle Time : 13~15 Sec (Normal Strip: 1Shot)  
 15~18 Sec (1stroke × 2cycle × 2dotting)  
 25~28 Sec (2stroke × 2cycle × 3dotting, Fine Pitch)  
 Boat : 15 ~ 18 sec (Single Boat) / 25 ~ 28 sec (Matrix Boat)  
 Yield Performance : 99.98%  
 Placement Accuracy :  $\pm 0.03\text{mm}$  (Strip),  $\pm 0.05\text{mm}$  (Boat)  
 Fine Pitch Capability : Min 0.20mm Ball size & 0.40mm Ball Pitch (Strip)  
 Min 0.20mm Ball size & 0.40mm Ball Pitch (Boat)  
 Handling Capacity : 50~95mm Width × 200~260mm Length (Strip)  
 75~200mm Width × 250~320mm Length (Boat)  
 Product Flexibility : All kinds of laminated substrate and Flip chip BGA  
 Package series  
 Quick Conversion Time : Ball tool, Flux tool, Lift Block, Pre-aligner  
 Foot Print : 2,900(L) × 1,900(W) × 1,870(H)  
 Foot Weight : 3,200kg

## BPS-DH1 Dual Head Ball Placement System



### • System Performance

Cycle Time : Min 16sec/Boat or Tray (2 same toolings)  
 Min 20sec/Boat or Tray (2 different toolings)  
 Placement Accuracy :  $\pm 0.03\text{mm}$   
 Fine Pitch Capability : 0.200mm\_Ball size / 0.400mm\_Ball pitch  
 Vision System : PRS, Ball count, Tool inspection, QC, 2DID check  
 Product Flexibility : All kinds of Flip chip BGA on boat and BGA  
 Package on laminated substrate  
 Quick Conversion Time : Ball tool, Flux tool, Lift Block, Pre-aligner, Less  
 than 15 min  
 Foot Print : 2800(L) × 1800(W) × 1870(H)  
 Foot Weight : 3,500kg

## BPS-6200 Ball Placement System



### • System Performance

Cycle Time : 12~15 Sec (Normal Package (1Dotting/Strip))  
 Yield Performance : 99.98%  
 Placement Accuracy :  $\pm 0.05\text{mm}$   
 Placement Capability : Min 0.30mm Ball size & 0.50mm Ball Pitch  
 Strip Handling Capacity : 50~77.5mm Width × 200~260mm Length  
 Product Flexibility : All kinds of BGA Package series can be applied  
 Quick Conversion Time : Ball tool, Flux tool, Lift Block  
 Foot Print : 2,150(L) × 1,400(W) × 1,870(H)  
 Foot Weight : 2,100kg

## wBPS-3000 Wafer level Ball Placement System



### • System Performance

High throughput : 40WPH (Based 12inch Si wafer 880,000balls)  
 Two stage concept<sup>TM</sup> for Flux-Printing and Ball Mounting  
 All kinds of FO-WLP, WLCSP, Substrates  
 System alignment accuracy :  $\pm 10\mu\text{m}$   
 Finer Pitch Capability : Min 0.060mm Ball Diameter / Min 0.120mm  
 Ball Pitch



SPEEDY FLEXIBLE RELIABLE CONVENIENT CAPABLE

# PRODUCT

## Package Sorter System

### APP-7000UR Auto Pick & Place System



#### • System Performance

UPH : 4,800~5,300 Units (40UP)  
Yield Performance : 99.9%  
Boat Handling Capacity : 74mm~160mm(W) × 270mm~310mm (L)  
Product Flexibility : All kinds of Boat Handling Flip chip Package  
Quick Conversion Time : Boat Lift Block and Picker Pad  
Foot Print & Weight : 2,700×1,800×1,800mm – Including Conveyor  
Foot Weight : 2,300kg

### PPS-3000 Bowl Feeder to Tray / Wafer Frame Pick & Place System



#### • System Performance

UPH : 2,500ea (Full Vision) / 3,500ea (Top Vision) / 4,000ea (Without Vision)  
Yield Performance : 99.9%  
Unit Handling Capacity : 1.6 × 1.6 ~ 20×20  
Product Flexibility : MLF, LGA, ETC  
Quick Conversion Time : Less than 10 min – Minor conversion  
Foot Print & Weight : 1100(L) × 1020(W) × 1550(H)  
Foot Weight : 900kg



#### PATENT

- Clip open and close System for Clip-typed Carrier Boat

# Automation System

## ASA-7200V Auto Stiffener & LID Attach System



### • System Performance

UPH : 1,000-1,300 EA  
Handling Package : FCBGA 15×15 ~ 80×80 with Stiffener  
Attachment Method :  
Max. 220 °C Epoxy heat adhesive  
Inspection Unit  
Look down camera for unit  
Look up camera for Stiffener  
Post Inspection Vision  
Foot Print : 3,100(L) × 1,930(W) × 2,300(H)mm  
Foot Weight : 4,200kg

## FPS-8200V Flux Pre-Screen Printing System



### • System Performance

Cycle Time : 7 sec/strip  
Pre-screen printing Method : Printing Flux on the strip  
Printing Flux on the strip : 62mm ~ 95mm Strip  
Quick Conversion Time : Vacuum Block, Flux Stencil  
Foot Print : 2,250mm (L) × 1,250mm(W) × 1,720mm(H)  
Foot Weight : 2,000kg



### PATENT

- Cleaning Flux Spreading System and its using Flux Spreading Method



# PRODUCT

## SMT Module Automation System

### ASL-6000 Auto Strip Loading with CO<sub>2</sub> Strip Marking



#### • System Performance

UPH : 400 strips  
Yield Performance : 99.99%  
Strip Handling Capability : 74~95mm Strip & Boat  
Strip Marking Method : CO<sub>2</sub> Laser Marking System  
Foot Print : 2,200(L) × 1,140(W) × 1900(H)mm  
Foot Weight : 1,700kg

### ASU-6000 Auto Strip & Cover Plate Unloading with Vision System



#### • System Performance

UPH : 400 strips  
Yield Performance : 99.99%  
Strip Handling Capability : 74~95mm Strip & Boat  
Foot Print : 2,050(L) × 1,900(W) × 1,350(H)mm  
Foot Weight : 1,700kg

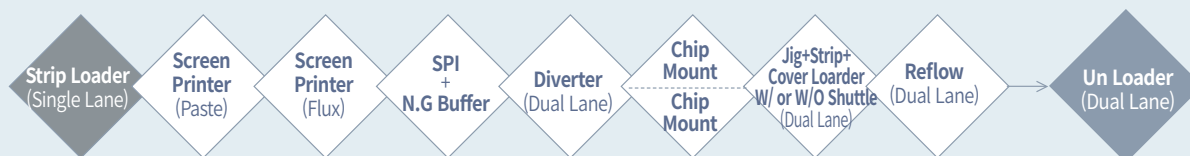
### BUS-7000(with Vision System) Strip Unloading System



#### • System Performance

Cycle Time : 8 SEC / Strip  
Substrate Capability : 62mm ~ 95mm(W) × 185mm ~ 250mm(L)  
Product Flexibility : All kinds of BGA Package family can be applied (PBGA, FBGA, ETC...)  
Conversion : \* No Need Conversion Kit  
Foot Print : 1,550mm (L) × 1,300mm(W) × 1,750mm(H)  
Foot Weight : 700kg

## SMT line Configuration



### BLS-5000 Auto Jig & Strip&Cover Loading System



#### System Performance

UPH : 500 strips  
 Strip Handling Capacity : 62~95mm Strip & Boat  
 Foot Print : 1,100mm(L) × 1,000mm(W) × 1,750(H)  
 Foot Weight : 1000kg

### SLS-3000 Auto Strip or Jig Loading



#### System Performance

UPH : 500 strips  
 Conversion Lange : 40 ~ 150mm  
 Product Flexibility : Strip, Carrier jig, Cover  
 Foot Print : 1005(L) × 1182(W) × 1350(H)mm  
 Foot Weight : 800kg

### SUS-3000 Auto Strip or Jig Un-Loading



#### System Performance

UPH : 500 strips  
 Conversion Lange : 40 ~ 150mm  
 Product Flexibility : Strip, Carrier jig, Cover  
 Foot Print : 895(L) × 1182(W) × 1350(H)mm  
 Foot Weight : 750kg

# PRODUCT

## Camera Module System



### PATENT

- Camera Module Housing Attaching Equipment and its using Automatic Inspection Method
- Camera Module Image Sensor Automatic Inspection Equipment and its using assembly Method
- Camera Module Len Barrel assembly Equipment and its using assembly Method
- High-resolution Camera Module Focusing Equipment and its using Focusing Method
- Round Dispensing for Camera Module Fabrication
- Contact Module for Inspection
- Automatic Working Position Method for using Camera

### DAS-6230 Dispensing Attach System



#### • System Performance

UPH : 1,750 ~ 1,850 units with BOSS PIN / 1,400 units

Without BOSS PIN

Yield Performance : 99.99%

Placement Accuracy :  $\pm 0.015\text{mm}$  for Lens PRS

$\pm 0.030\text{mm}$  for Holder PRS

Handling System : Strip & Tray Handling

Inspection System : 4-PRS Camera System

Laser Height Prober System :  $\pm 5\mu\text{m}$

Application Package :  $65 \sim 85\text{mm(W)} \times 180 \sim 250\text{mm(L)}$

Product Flexibility : All kinds of Camera Module can be applied

Foot Print :  $2,300\text{(L)} \times 1,400\text{(W)} \times 1,800\text{(H)}\text{mm}$

Foot Weight : 2,000kg

### DAS-6230S Dispensing Attach System with Snap Cure



#### • System Performance

UPH : 1,750~1,850 units with BOSS PIN /

1,400 units Without BOSS PIN

Yield Performance : 99.99%

Placement Accuracy :  $\pm 0.015\text{mm}$  for Lens PRS

$\pm 0.030\text{mm}$  for Holder PRS

Handling System : Strip & Tray Handling

Inspection System : 4-PRS Camera System

Laser Height Prober System :  $\pm 5\mu\text{m}$

Application Package :  $62 \sim 95\text{mm(W)} \times 180 \sim 250\text{mm(L)}$

Product Flexibility : All kinds of Camera Module can be applied

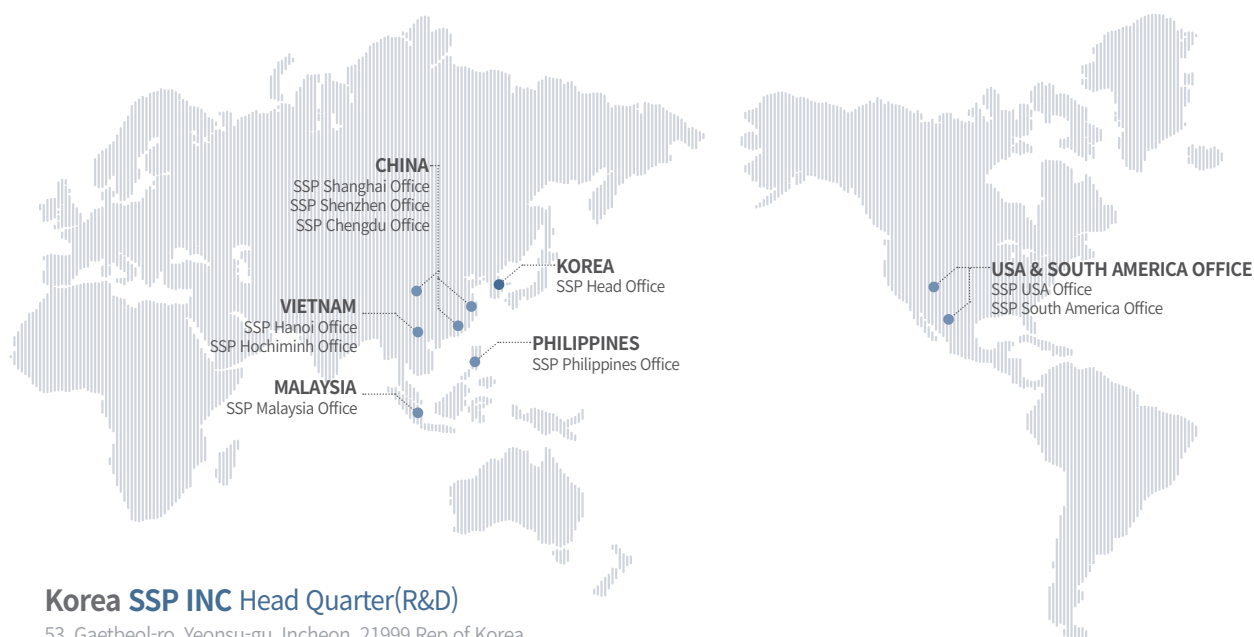
Foot Print :  $2,300\text{(L)} \times 1,400\text{(W)} \times 1,800\text{(H)}\text{mm}$

Foot Weight : 2,500kg



# Global Network

SSP's global network spreading world-widely



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## Agents

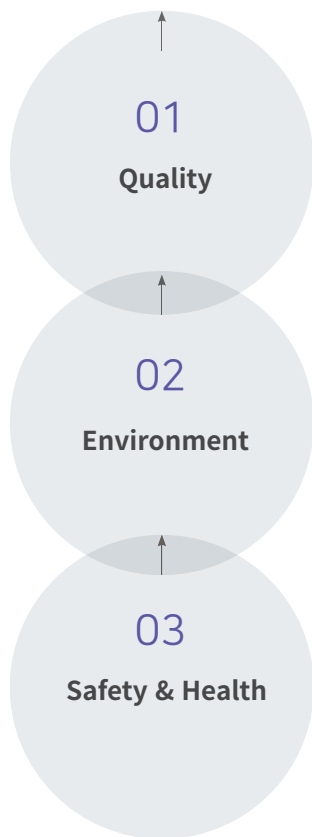
Japan

Taiwan

China

Malaysia

Thailand



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## Turn Your Imagination Into Reality Through Technology

Quality, Environment Safety & Health

SSP enacts and executes QESH management policy as follows to accomplish customer satisfaction through stable supply of best quality equipment, pursue eco-friendly management, prevent accident and improve health and for employees.

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**SSP INC.**

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