

AT3-300

Automated Programming System

A professional Pick & Place Auto Programmer for ICs on / in Tray, Tube and Tape



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HI-LO SYSTEMS



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Features & Benefits

Introduction

AT3, double **3 in 1** Auto Programming System, offers total solution in IC programming field

Double **3 in 1** benefits never seen in the market before:

- Integrate 3 packing types in 1 system ----
Tray, Tube & Tape
- Integrate 3 job functions in 1 system ----
Programming, Marking & Packing Conversion

A real universal IC programming system which combines IC programming, marking and packing conversion into one single operation for most of IC products on / in tray, tube and tape.

AT3, the unique technology, the overall support and the best choice you really need for your comprehensive production environment.

Excellent performance

The system can operate a variety of input and output options with tray, tube and tape thus provides programming, marking and packing conversion for most of IC products on / in tray, tube and tape.

Intelligent operation

Automatic pick & place operation in sequence of loading / positioning / programming / sorting / marking (work with external printer) / unloading with powerful software control.

Efficient programming

Being built in the new generation programmer, ALL-100, which is designed with high speed CPU, built-in FPGA, high capacity pin drivers and USB interface, thus providing a high speed, low noise, stable and reliable programming platform.

Optional marking

Working with external printer, System provides IC dot / checksum marking before taping.

Flexible packing conversion

Offer IC packing conversion between tray, tube and tape through fast change-over tray / tube / tape media installed to the working platform.

Accurate positioning

Being equipped with two precise CCD. One fixed, upward CCD for IC positioning while the other carried, downward CCD for sockets / pick & place spots positioning.

Multi-site programming

Up to 4 sets / 32 sites can program simultaneously, thus minimizing handler idle time when programming high density memory devices.

High throughput

1,000 UPH @ zero programming time, 3.6 sec/unit handler index time.

Minimizing setup change

Universal pin driver design makes socket module universal for various product types with same package, thus minimizing setup change when switching product type for programming. If it comes with the same package, no any hardware change is needed. If package is different, only need a simple pull-plug for socket module replacement.

Fast change-over and easy maintenance

Power-on self diagnostics available. Module design allows easy maintenance, repair and replacement as well as fast change-over between I/O media.

Powerful operation software

Both setup data and test results are automatically saved for next power-on operation as well as for quality / yield traceability. Graphical user interface makes it easy to access.

Compact size

Only 800mm(W) x 900mm(D) x 1200mm(H) in dimension for base unit. Providing optimum production space.



■ Optimized working platform



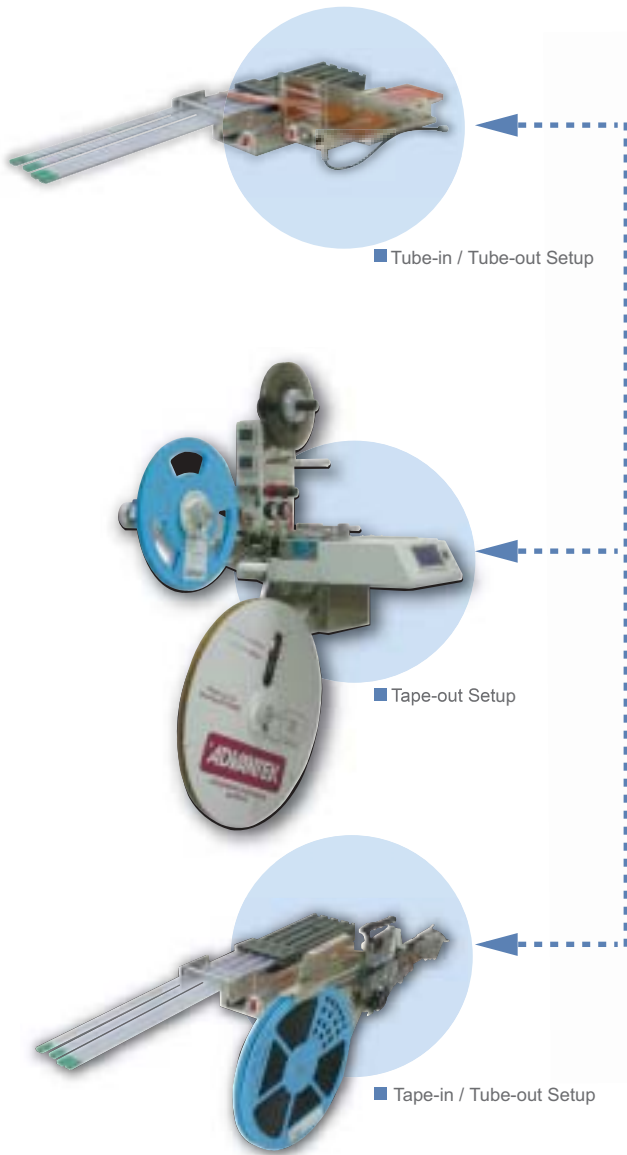
■ Tube-in / Tube-out Setup



■ Tape-in / Tube-out Setup



■ 8X4 Multi-site programming



■ Easy module replacement

■ Optional marking provided



■ Friendly user interface

Specifications

■ Motion

Throughput : 1,000UPH, 3.6sec/unit handler index time
X-Y drive : High performance servo drive system
Transmission : Ball screw & linear guide mechanism
Resolution : X axis: $\pm 0.02\text{mm}$, Y axis: $\pm 0.02\text{mm}$, Z axis: $\pm 0.02\text{mm}$
Max. stroke : X axis: 365mm, Y axis: 595mm, Z axis: 25mm
Theta axis resolution : 0.5°
Pick & Place head placement accuracy : $\pm 0.08\text{mm}$
Pick & Place head placement force : $<1.6\text{kg}$
Component processing range : SO8 ~ QFP256



■ Vision

Camera : 752x582 pixels CCD x 2
Field of view : 19.2mm x 19.2mm
Vision alignment : Corner of body
Vision resolution : $\pm 0.08\text{mm}$
Process time per view : $\sim 0.3\text{ sec}$

■ Programming

Built-in programmer : ALL-100 Universal Programmer
Programming site : 8 sites x 4 sets = 32 sites
Pin driver : 68 universal pin drivers per set
Applicable products : PROM, EPROM, EEPROM, FLASH, MCU, PLD, PAL, FPGA
Applicable packages : SOP, SSOP, PLCC, MLF, TSOP, BGA, μBGA , QFP, TQFP

■ I/O media

JEDEC Tray : One tray (base) or two trays (optional) for both Fresh and Pass units
Plates for rejects : One for vision rejects and the other for programming rejects
Tube input : 150mil, 208mil, 300mil, PLCC32, PLCC44 packages available, 4 tubes each package
Tube output : 150mil, 208mil, 300mil, PLCC32, PLCC44 packages available, 4 tubes each package
Tape input : 12 ~ 34mm
Tape output : 12 ~ 34mm

■ Control

Built-in Controller : PC-based control with Windows 2000
Display : 17" TFT LCD monitor
Data entry : Keyboard / mouse

■ Power

AC voltage : 208 ~ 240V / 50-60Hz
Power consumption : 1.0 KVA
Internal DC voltages : 5V, 24V

■ Air

Air pressure : 80 psi (5.56 bar)
Air consumption : 32 liter/min

■ Dimension

W x D x H : 800mm x 900mm (base unit) x 1200mm. (H: 1660mm with tower light installed)
W x D x H : 800mm x 1130mm (with tube-in / tube-out media installed) x 1200mm
W x D x H : 800mm x 1500mm (with tape-in / tape-out media installed) x 1200mm

■ Weight

$\sim 150\text{kg}$

Ordering Information

Standard configuration includes I/O media for basic Tray-in and Tray-out operation. One JEDEC standard tray and two small plates for vision and programming rejects are provided. Any other I/O media and appropriate programming module from optional accessories should be ordered separately. Appropriately stocking some device sockets for spare is recommended.

■ Optional accessories

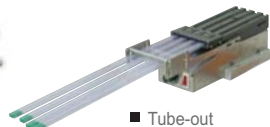
- TB-IN-xxxxxx (xxxxxx: package type) : Tube input medium
- TB-OUT-xxxxxx (xxxxxx: package type) : Tube output medium
- TP-IN-xxmm (xx: tape width) : Tape input medium
- TP-OUT-xxmm (xx: tape width) : Tape output medium
- Dual-Tray Conversion Kit : Accessories for packing conversion between tray and tube / tape
- Inject printer : External unit for marking of tape-out units.
- Programming Module : Please contact HI-LO sales for appropriate P/N and effective site # of programming modules.
- Device Sockets : Consuming parts. Preparing stock for replacement is strongly recommended !



■ Tray Conv. kit



■ Tube-in



■ Tube-out



■ Tape-in



■ Tape-out