



# Selex ES

A Finmeccanica Company



Automation Systems

## BIPIANO TWO-TIERED LETTER SORTING SYSTEM

The Selex ES BIPIANO two-tiered letter sorting machine is a reliable, flexible, ergonomic and “easy to operate” system, designed to sort and sequence large volumes of mail at high performance levels and minimum operating cost.

Selex ES claims a broad base of expertise in postal and express courier automation, built on over than 40 years in the sector, working for major postal operators and couriers worldwide. BIPIANO - the leading product of the company in the letter segment - is the first two-tier stacker machine deployed in a live postal environment.

BIPIANO is the best solution of its kind, as the design incorporates only high technology components, resulting in a top-class sorting machine for letter processing.

### WHY TWO TIERS OF STACKERS FOR A LETTER LINE?

Today, two-tiered letter sorters are the benchmark configuration for mail processing on the international postal market, because they provide the best trade-off between

the key factors in the postal process: overall productivity, footprint and ergonomics.

### STRENGTHS

#### Compact footprint

BIPIANO concentrates all the basic functions (image acquisition camera, reading devices, printers etc.) in a single module and implements the delay path for online video-coding along the rear side of the sorting modules, therefore reducing the overall footprint.

#### High capacity stackers

With lower tier capacity of 500mm and upper tier of almost 400mm, the BIPIANO ensures maximum processing efficiency during both pre-sorting and, most importantly, sequencing.

#### High throughput

BIPIANO provides very high throughput of up to 70,000 pcs/h, with extremely stable performance.



### **Modular solution**

The length of the video-coding delay line can be freely configured according to specific requirements, simply by defining the number of sorting modules with delay path needed.

The shape of the machine can be configured to satisfy any layout constraints, using the U-turn module, for example, to optimise the footprint of machines with a large number of stackers.

BIPIANO can be equipped with additional features while retaining its compact footprint; by exploiting the available space inside the main module or by adding other modules.

### **Ergonomics and productivity**

The presence of a tray lodge under each stacker represents the optimum solution to ensure error-free, high productivity sweeping, concurrent with optimum operator movement ergonomics.

High productivity is achieved through the ability to transfer all letters from the stacker to the tray in a single movement, rather than in bundles. This further reduces the margin for human error. Every aspect of the ergonomics of BIPIANO have been considered in great detail by the design team, who draw on a wealth of experience in the mail processing



innovation, including the slant of the upper stackers and the shape of the paddle used by the operator, so that he doesn't need to be careful about placing the items in the right tray.

### **Efficiency**

The new technical solutions introduced further improvement to the already high level of efficiency, to over 99%. BIPIANO also has built-in diagnostic modules which provide the collection of data and information on all the machine's components.



## **FUNCTIONAL DESCRIPTION OF THE LINE - BASIC FEATURES**

### **Feeder**

The feeder is based on proven technology which exploits the advantages of both friction and vacuum in order to maximise speed and extraction accuracy.

### **Image capture**

Images are captured by a high definition TDI 300 dpi camera. Colour camera is also available on option.

### **Barcode reading, printing and verification**

Barcodes on letters are read, and those printed by the line verified, by a very high performance reading head that can recognise both black and fluorescent inks.

The printing of water and alcohol-based fluorescent barcodes is particularly efficient.

### **Delay path**

The delay required for on-line video-coding or to provide value-added services is obtained on the rear side of the sorting modules. Its length can be freely configured during definition of the machine's configuration. Each module can provide a delay of approximately 2 seconds.

### **Sorting section**

The sorting section consists of modules hosting 12 outlets each. Each outlet has its own tray lodge underneath to ensure rapid (mail swept with a single action) and error-free sweeping.



### **Registered mail secure processing**

The registered mail secure processing function tracks each processed item with high accuracy, associating it with the sorting tray.

### **Integration with external line systems**

BIPIANO can be connected through standard interfaces to Selex ES's ICS (Integrated Coding System), enabling it to perform all video-coding functions available on the market (online, off-line, delayed, remote) and the full set of address recognition functions.

Integration is also available with all Selex ES's ICT platforms, including Coding Directories Management, Sorting Plan Management, Production Planning and Monitoring, Service Quality Measurement and Indicia Management, in addition to existing third party systems and/or new installations.

### **Label printers**

The sorting outlets are equipped with label printers positioned ergonomically on the front of each module at the top, for clear identification of each tray.

### **Display**

The outlets are equipped with 7" graphic displays that provide the operator with the relevant information about each destination.

### **Man/machine interface**

The easy, intuitive interface provides comprehensive management of both normal mail sorting and problem solving operations, with the assistance of an online help function that guides the operator through procedures with clear, effective instructions.

## **OPTIONAL FEATURES**

### **Culling section**

BIPIANO can be equipped with a culling module to detect physical features of the mail, including identification of metallic content, excessively stiff items and any anomalies or problematic mail. The module has two reject outlets so that items that are fit for reprocessing are separated from non-machineable items.

### **Cancelling section**

BIPIANO can be equipped with a printer that cancels stamps during sorting to optimise mail processing.

### **Additional text and logo printing**

The same cancelling printer can be used to reproduce text, logos or other information with high impact, high definition graphics.

### **Address forwarding label printing and application**

The printer can also be used to print a forwarding address either directly on the envelope, or on a label applied by high speed label applicator.



## TECHNICAL SPECIFICATIONS

### General Information

Maximal number of outlets	384 units
Machine length (168-outlet configuration with image lifting, 15-second VCD delay and barcode printing)	36 m
Feeder capacity (input magazine)	basic: 1400 mm (expandable)
Stacker capacity	upper level: 380 mm lower level: 500 mm
Acceptable range of mail	length: 125 mm - 292 mm height: 85 mm - 176 mm thickness: 0.15 mm - 6 mm weight: up to 100 g
Acceptable range of tray	length: up to 550 mm width: up to 320 mm height: up to 205 mm

### Performance

Nominal throughput (125 mm length, 1 mm thickness)	up to 70,000 items per hour
Availability	> 99,5%
Noise level	< 70 dB(A)
Conformity to standards	CE



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