



# The Smarter Choice

TSC barcode label printer  
Solution Brochure: Warehouse & Logistics

TSC aims to enhance your company's success

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The Smarter Choice



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# TSC

## A Top-5 global barcode printer manufacturer

Trusted by customers around the world. More than 3 million units sold



All it takes to simplify your processes, make significant savings on manpower, and improve the accuracy of inventory management, production and distribution, is a simple barcode label. These are just a few of the advantages of utilizing automatic identification products.

TSC thermal printer division of Taiwan Semiconductor Co., Ltd. was created in 1991 for an OEM partnership with Eltron. Fair prices, excellent durability, high quality, and dedicated professional support services have given Taiwan Semiconductor a market advantage that has attracted international attention and patronage. The company continued to improve its operations, products and services to meet customer needs as well as strengthen its position in the automatic identification market. TSC started to sell its products in Asia, North America and Europe, and then expanded to include Middle East, Africa and the Oceania to build a client base that spans the globe.

As the thermal printer division grew globally, Taiwan Semiconductor decided to maximize long-term competitiveness and future business development. The thermal printer division became an independent entity under the name of TSC Auto ID Technology Co., Ltd. in 2007, which focuses solely on the manufacture and sales of barcode label printers and became an over-the-counter-listed company in November 26th, 2008.

In January 2016, TSC completed the acquisition of the US barcode printer division of Printronix Inc. whereby TSC became one of the top-5 global thermal barcode printer brands. This acquisition incorporated 40 years of Printronix experience in the barcode printing industry into TSC and will enable the development of even more innovative products. Together, TSC's increased sales and service network around the globe will allow TSC to be more reactive to customer needs. Combining both brands mark a giant milestone in the path towards the goal of becoming the world's number one all-round supplier of automatic identification solutions.

## Corporate philosophy and product advantages



# The Smarter Choice

High performance barcode and label printers at a fair price

Changes in global industry have made automatic identification systems almost mandatory. Customer requirements have become increasingly demanding in terms of specifications, features, quality, costs and services. Any one of these details can be the key to success of a product. How accurately and quickly a company can grasp the market trend and respond to the needs of customers is often what determines marketplace success.

TSC believes that excellent quality and dedicated services are vital to ensure brand loyalty. At TSC, we not only have a professional technical team, but we also pay close attention to the needs of our customers around the world, particularly with respect to the development of new products.

TSC is a Taiwanese brand, dedicated to the highest standards in terms of design, user-friendliness, stability and durability. We have supplied more than 3 million label printers to the automatic identification market—a testimony to the world-class quality of our products. The TSC business philosophy encompasses innovation, professionalism, and dedication to build a brand and quality customers can trust.

TSC engineers focus on system integration and product applications to ensure that all of our barcode printers can achieve a seamless match with existing customer systems, without any need for changes in factory equipment or processes. This "trouble-free replacement" helps to streamline processes, reduce the error rate, improve production efficiency, lower production costs, and even improve quality. Our clients tell us that not only is TSC on par with or better than other international brand manufacturers in terms of quality, but most importantly our products are highly firmware-compatible. Switching to TSC from another brand requires minimal setup. Our longstanding experience in all vertical market applications, flexible customized services, and the reliability of our products together form the core of TSC competitiveness and success.

We do everything it takes to fulfill the TSC brand promise every day with our smart products and excellent customer service.

If you are looking for a high quality, durable, and compatible barcode printer at a reasonable price, one which can easily be integrated into your current system and comes with great after-sales services, then TSC is the obvious choice.



Our R&D team responds to market trends with the development of new product functions and work to ensure compatibility to satisfy the needs of the market.



Product customization and integration and trouble-free replacement ensures smooth system installation.

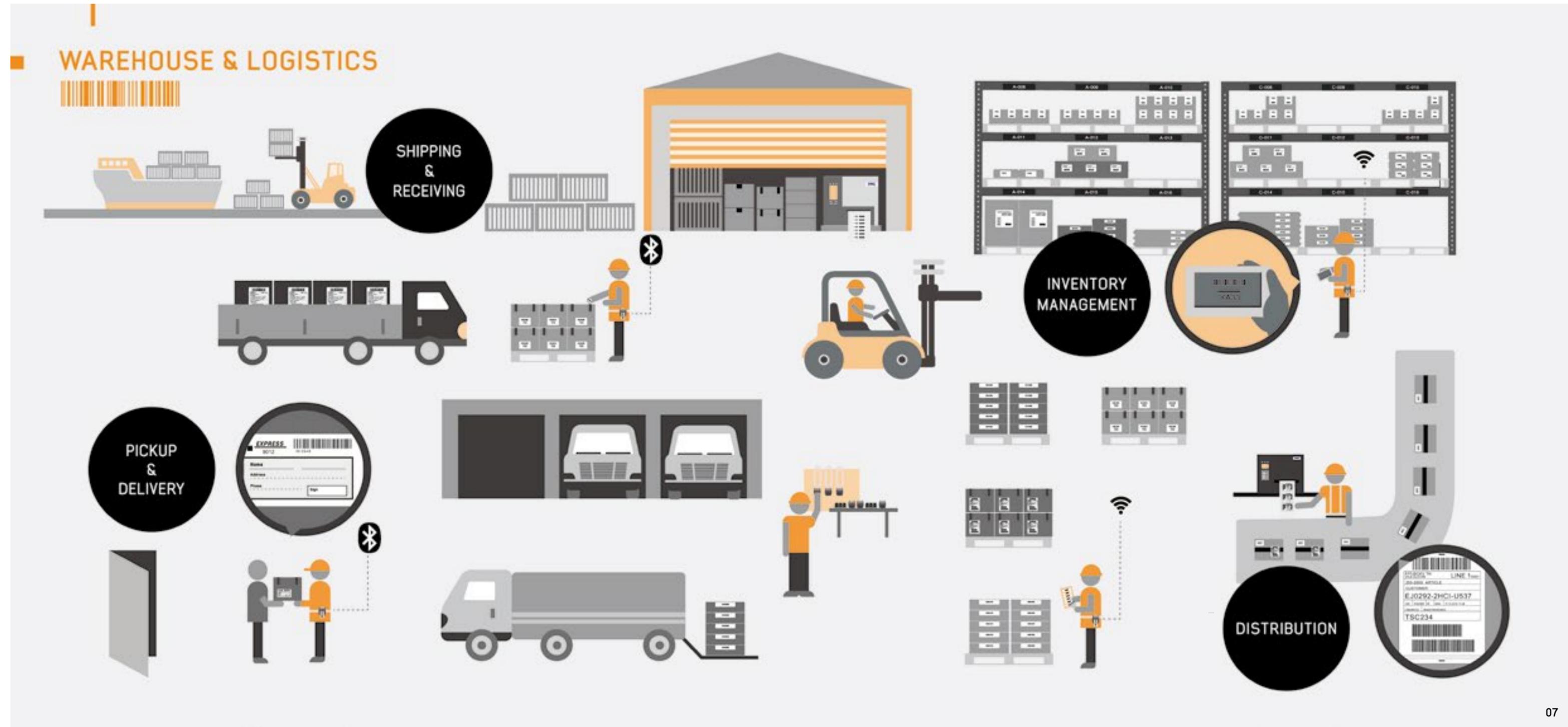


Every printer is given two 100% inspections to ensure perfect quality and reliability.



# Build a central system Enjoy polished logistic management

Accurately store, handle, and distribute packages  
with peace of mind



## Label goods on the spot and receive into inventory immediately

Print labels on the spot, save time and energy



Model\_  
TX200 Series



### Recommended Product: TX200 Series

TX200 series is a 4" wide desktop thermal transfer/direct thermal barcode label printer equipped with high performance and a maximum print speed of 8 inches per second that is designed to handle a wide variety of applications. The clamshell design can be easily flipped open for ribbon installation. The double-layer case provides increased durability under impact. The large capacity can hold up to a 300 meter ribbon and up to a 5" OD label roll, reducing the number of replacements and making the printing more efficient.

### Key Features

- Up to 203 mm (8") per sec. print speed
- User-friendly clamshell design for easy drop-in media loading
- 3.5" color TFT display for easy operation (standard for TX600, optional for TX200 & TX300)
- Ribbon capacity up to 300 m and large media capacity up to 127 mm (5") OD
- Available in 203 dpi, 300 dpi and 600 dpi resolutions which makes it ideal for printing very small 2D barcodes, graphics, fine print and other ultra-high-resolution images
- TSPL-EZD firmware for plug-n-play ease and includes Eltron®, Zebra® and Datamax language support
- ENERGY STAR® qualified

Logistics, in its literal meaning, consists of the coordination of the flow of goods involving people, facilities, or supplies. Usually, the beginning of the process starts with receiving goods at a warehouse and preparing them to be stocked into inventory which oftentimes includes labeling. An error-free receiving process will allow for a quick turnaround for sales. The need for higher grade receiving process and system is critical, and TSC can provide the perfect tool to accomplish this goal.

Warehousing companies also used printers to print out labels for the goods in the receiving area. When a truck arrives, an employee would need to rush to the back office and print out labels with expensive industrial printers, and again travel across the large warehouse to the receiving area. After much moving around in the warehouse, an employee then has to mark and count the products along with signing the goods into the warehouse, which is usually also a manual process. When there are a lot of goods waiting to be processed at the same time, these time-consuming procedures can delay the receiving time and even cost blockage at the entry point.

## Can we receive goods into inventory without delay?

Most TSC printers are equipped with Ethernet making it easy to place multiple printers in a large warehouse. The affordability of TSC printers can improve costs for large warehouses that need multiple printers. Placing multiple printers in the receiving or shipping area can eliminate the need for the employee to travel back and forth to print labels and check for information. By saving product information in a central database and printing it out electronically, it can successfully reduce human errors such as writing down wrong information or sticking on the wrong labels. The employee would only need to print an exclusive barcode label and the goods can immediately be received into stock.

### Recommended Product: Alpha-3R

Alpha-3R is a compact, easy-to-carry, portable printer that is simple to use and fast to print, making it effortless to use even in action. A single charge can support up to 30 hours of usage. The user can easily meet the needs of a variety of mobile printing without worrying about a power shortage.

### Key Features

- Compact design to meet daily mobile printing needs
- High capacity 2500 mAh, last more than 30 hours of printing receipts on a single battery charge
- Large media capacity 57 mm (2.25") OD to reduce media change frequency
- High-speed processor and extensive memory for fast print speeds of up to 102 mm (4") per second
- IP54-rated environmental case to resist dust and water
- Plastic design with rubber over-mold construction that withstands 5 ft. (1.5 m) drop
- Supports TSPL-EZ, ESC-POS, CPCL emulation



Model\_  
Alpha-3R

## Clearly label shelves and goods

Centralized database shows stock status and location



Model\_ Alpha-4L



Model\_ TTP-2410MT Series

### Recommended Product: Alpha-4L

Alpha-4L 4" wide direct thermal portable printer features a rugged design and reliable performance. It's a comfortable, light-weight printer capable of working with any mobile label, document or receipt printing application to satisfy a variety of mobile printing needs. Especially ideal for warehouses, Alpha-4L's large capacity for media can reduce the frequency of media replacements. The Alpha-4L is convenient for users printing on the go without any burden with any hour of the day.

### Key Features

- Compact design to meet daily mobile printing needs
- High capacity 5800 mAh rechargeable Li-ion batteries, last more than 45 hours of printing receipts on a single battery charge
- Large media capacity 67.3 mm (2.65") OD to reduce media change frequency
- High-speed processor and extensive memory for fast print speeds of up to 102 mm (4") per second
- IP54-rated environmental case to resist dust and water
- Plastic design with rubber over-mold construction that withstands 5 ft. (1.5 m) drop
- Supports TSPL-EZ, ESC-POS, CPCL emulation

Consumers are now accustomed to a quick turnaround time from when orders are placed to when items get delivered with some large companies having a turnaround time as quick as 6 hours. Fast delivery time depends on a strong internal processing team and in order to have a strong team, products must be correctly and efficiently labeled in the first place. This is why shelf labels are so important to logistics.

Traditional logistics warehousing uses manual registration forms to record where the goods are shelved in the warehouse. Different departments may even use multiple forms, so it may be possible for a piece of cargo to be handled by multiple people. Any mistakes in the chain may take up a lot of time and manpower to correct cargo

## Is it possible to avoid product misplacement?

information. There's always a risk for mistakes so long as the registration process is done manually. TSC can help to solve this issue by assisting in building a new labeling system along with suitable printers and scanners. The entire storage management information process can be planned and closely monitored, eliminating possible mistakes and improving processing time.

During receiving, the goods have barcode labels on them and are transported by forklifts or other vehicle to the shelf where it belongs. The forklift or other vehicle may have a scanner or computer on it as well. After the goods are secured on the designated shelf, the corresponding barcode is scanned again to make sure the goods have arrived in place. Each movement is saved in the central database, so the goods can be tracked at any time; all steps are watched over to minimize the possible errors.

### Recommended Product: TTP-2410MT Series

TTP-2410MT series is the smarter choice for high quality product labels. With the "Thermal Smart Control" print head control technology, no matter how many items you need printed, the print head will always be uniformly heated, providing precise and high quality barcodes. TTP-2410MT series printers can hold up to a 600 m ribbon supply, eliminating the need to manually change ribbons frequently, resulting in a much smoother printing process.

### Key Features

- Heavy duty die-cast aluminum design that is built to handle high-volume demand cycles
- 4.3" color LCD includes new UI design with 6-button menus and touch panel for more user friendly operation
- Ribbon capacity monitor widget helps detect supply levels
- Auto TPH resolution switch detection
- Available in 203 dpi, 300 dpi and 600 dpi resolutions which makes it ideal for printing very small 2D barcodes, graphics, fine print and other ultra-high resolution images
- TSPL-EZD firmware for plug-n-play ease and includes Eltron®, Zebra® and Datamax language support

## Fast order picking and distribution

Avoid human error, tailor label machines to the central system



Model\_  
Alpha-2R

### Recommended Product: Alpha-2R

Alpha-2R is TSC's smallest and most affordable 2" wide portable receipt printer. Light-weight and compact design features 17 hours of usage on the battery to support the receipt printing on demand and on the go. Alpha-2R offers the largest media capacity in the 2 inch receipt market with a media capacity of 58 mm wide and a maximum 50 mm OD receipt roll, reducing the frequency of media replacement and improving work efficiency.

### Key Features

- Compact design to meet daily mobile printing needs
- High capacity 1620 mAh, last more than 17 hours of printing receipts on a single battery charge
- Large media capacity 58 mm (2.28") to reduce media change frequency
- High-speed processor and extensive memory for fast print speeds of up to 102 mm (4") per second
- IP54-rated environmental case to resist dust and water
- Plastic design with rubber over-mold construction that withstands 5 ft. (1.5 m) drop
- Supports TSPL-EZ, ESC-POS, CPCL emulation
- ENERGY STAR® qualified

Order picking is a very important part of logistics and distribution. It is done according to the customer's order or the distribution center's delivery plan. An employee must find the goods efficiently and accurately from the warehouse. After sorting, collecting, and making sure all the items in the order are pulled and boxed, it must then be placed in the shipping area for shipping. In terms of overall handling costs, the picking operations account for about 90% of the cost, and about 30% to 40% of the overall distribution center operating time. Therefore, if the efficacy of picking is improved, the overall distribution operation would also have a decisive impact.

## Can order picking be performed with ease?

Employees used to spend time consuming offline operations such as signing off on paper during picking. Today, there are more clients, deliveries are done more often and the expected delivery time is also shortened. The delivery center must also upgrade its operation method to accommodate faster turnaround. The TSC team can provide a suitable label printer for the logistic flow and

enhance the speed of operation. Making sure that all the goods are sorted according to specific requirements such as delivery or size can also increase the efficiency of distribution.

The operator only has to scan the goods' barcode to know which shelf it is located in. After picking, the goods would then be sent to the collection area to be sorted to the designated delivery area. Employees do not have to constantly double check or manually check out goods. All information is recorded in the central database, which can also be opened to the clients for tracking.

### Recommended Product: Alpha-3R

Alpha-3R is a compact, easy-to-carry, portable printer that is simple to use and fast to print, making it effortless to use even in action. A single charge can support up to 30 hours of usage. The user can easily meet the needs of a variety of mobile printing without worrying about a power shortage.

### Key Features

- Compact design to meet daily mobile printing needs
- High capacity 2500 mAh, last more than 30 hours of printing receipts on a single battery charge
- Large media capacity 57 mm (2.25") OD to reduce media change frequency
- High-speed processor and extensive memory for fast print speeds of up to 102 mm (4") per second
- IP54-rated environmental case to resist dust and water
- Plastic design with rubber over-mold construction that withstands 5 ft. (1.5 m) drop
- Supports TSPL-EZ, ESC-POS, CPCL emulation



Model\_  
Alpha-3R

# Keep track of shipments in real time

Scan and print on the spot, enhance distribution efficiency



Model\_ DA220 Series

### Recommended Product: DA220 Series

The TSC DA220 series is compact in size, and this 4" wide printer is extremely stable and durable. It can print up to 6 inches per second to easily achieve high-quality label printing. The DA220 series has a large memory capacity of 128 MB Flash, 64 MB SDRAM, which is the perfect for logistics with needs for printing shipping labels, and other label and receipt applications

### Key Features

- High quality of double-walled clamshell design for the durability
- Compact size — space saving design
- User-friendly clamshell design for easy deep-in media loading
- Up to 152.4 mm (6") per sec. print speed
- TSPL-EZD firmware for plug-n-play ease and includes Eltron®, Zebra® and Datamax language support
- ENERGY STAR® qualified



Model\_ MH240 Series



Once the goods are out of the warehouse, there are a variety of factors that can affect transit. Uncertain factors can adversely affect delivery times. The delivery company's time and manpower spent during the storage period may be completely wasted, and the delivery company would need to pay extra for this loss if the goods were mislabeled or loaded improperly. Therefore, it is vital that information be accurate.

After the delivery personnel has received delivery information they would need to do number counts and load the delivery truck, as well as confirm the route and place for delivery. In the past, all this work was done by offline solutions, such as manual, maps, and forms. The delivery personnel would have to sign off on all the paperwork along with delivering hundreds of parcels per day. While most delivery personnel usually work alone, they need to

## Is it possible to trace all shipments?

take care of the deliveries as well as provide friendly services to the clients. With so many deliveries each day, having an efficient system to keep track of packages is an important tool for companies to have.

An employee can be equipped with a scanner and a TSC label printer on their delivery truck. Every time an employee arrives at a dedicated place, a label can be printed from the portable printer for the receiver to scan and for the dispatching personnel to scan back into the system for confirmation. If a cargo arrives at a transit center, a compatible scanner and database can also record the location and arrival time of the cargo. Also, if there is no label or if information is lost, a new label can easily be printed on the spot.

### Recommended Product: MH240 Series

MH240 Series features the "Thermal Smart Control" print head control technology to provide accurate, crisp and clear labels. With the new GUI design on display, menus can be customized to bring common tasks to the front screen and the exclusive SSC (Setting Security Control) offers complete setting control to prevent accidental and undesired changes. MH240 series printers can hold up to a 600 m ribbon supply, eliminating the need to manually change ribbons frequently, resulting in a much smoother printing process.

### Key Features

- Up to 356 mm (14") per sec. print speed
- Die-cast print mechanism and base with bi-fold metal cover that is built to handle high-volume demand cycles
- 4.3" color LCD includes with 6-button menus and touch panel for more user friendly operation (only for MH240T & MH240P series)
- Ribbon capacity and label near end monitor widget help detect supply levels
- Support 8" OD full roll internal rewinder (only on MH240P/MH340P/MH640P)
- Available in 203 dpi, 300 dpi and 600 dpi resolutions which makes it ideal for printing very small 2D barcodes, graphics, fine print and other ultra-high-resolution images
- TSPL-EZD firmware for plug-n-play ease and includes Eltron®, Zebra® and Datamax language support
- ENERGY STAR® qualified

Product specifications please refer to page 18 and 19.

## Success story

### Save time and energy with TSC's mobile printer

Simplified work process reduces time spent on lengthy tasks



Recommended Model\_

Alpha-4L

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In the logistics industry, speed and convenience are top priorities in warehouses as they have to handle hundreds of goods and pallets per day. Logistic company, **Mutual Logistics**, chose TSC to help upgrade their inventory system with the help of TSC partner, **ID Services**. Utilizing the Alpha-4L's Wi-Fi wireless connectivity, operators can save time and energy retrieving information and printing labels.

The application is to place TSC's Alpha-4L with Wi-Fi portable printer onto the forklifts. These printers replaced the huge industrial stationary printers that forced the already seated operators to leave their forklift with their wrapped pallets already on board, and make constant back-and-forth trips to retrieve the labels printed by the stationary printers. Not only was this time consuming but also very tiresome for the operators.

The small footprint of the Alpha-4L is fully compatible with the ergonomic constraints of the driver station. TSC's partner **ID Services** proposed additional services that can support the company if it would like to integrate, resell and maintain the full range of TSC printers.

Companies in the logistic industry can easily pair with TSC's highly compatible and affordable printers on any part of the working process. Our partners can also assist with the development of software that can support the upgrade of hardware. Our fast, high-throughput platforms are ideally suited for labeling pallets, goods, and shipping containers, which streamlines the tracking process via hands-free identification. Whether you're creating miniature 2D bar codes for small items or large-format labels for big containers, TSC offers a solution tailored exactly for the task at hand.

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### Enhance the speed of luggage processing at airports

High compatibility creates painless equipment transitions



Recommended Model\_

TTP-2410MT

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The luggage barcode label is one of the most important keys to the luggage processing system. The label can go through safety checks, pickup, last check and the final packing process. Customers can even use the barcode label to track their luggage and make sure it arrives at the correct location.

Generally, when travelers arrive at the counter, the employee would attach a barcode label on each luggage. The luggage will then go through a scanner on the automatic transporting equipment, pass through the safety check and finally transported to different rails and process platforms. Operators can read the luggage information from the barcode scan and place the luggage into the correct container.

**ADP Paris Airport** faced a problem regarding their printing machines. **ADP Paris Airport** was using another brand of printer, but as these models were no longer sold by the manufacturer, they had to replace their printing tools. They were looking for a printer with a small footprint, something that was compatible with their existing communications protocol and within budget.

Our TSC partner **Madsoft** had found a way to solve their problem and introduced TSC printers, which met all the requirements of **ADP Paris Airport**, fitting perfectly with the existing installation and communication protocol. They could replace all their old printers without having to modify the existing installation, making an efficient and cost effective hardware change. The TSC printers reduced the printer footprint and have an ergonomic design that is easily used by the operators.

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# Product Overview & Recommendation

|                            | 2" Width                                                                                                                                                                                                                         |                                                                                                                                                                                                                            | 3" Width                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                       | 4" Width                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                               |           | 4" Width  |              |         |         |         |         |         |         |         |         |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|
|                            | Alpha-2R                                                                                                                                                                                                                         | Alpha-3R                                                                                                                                                                                                                   | Alpha-4L                                                                                                                                                                                          | DA220 Series                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                 | TX200 Series                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                               | TX200 Series                                                                                                                                                                                                                                                                                                          | TTP-2410MT Series                                                                                                                                                             |           |           | MH240 Series |         |         |         |         |         |         |         |         |
|                            | Alpha-2R                                                                                                                                                                                                                         | Alpha-3R                                                                                                                                                                                                                   | Alpha-4L                                                                                                                                                                                          | DA220                                                                                                                                                                                                                                                                                                                                                 | DA320                                                                                                                                                                                                                                                                                                           | TX200                                                                                                                                                                                                                                                                                                           | TX300                                                                                                                                                                                                                                                                                                                         | TX600                                                                                                                                                                                                                                                                                                                 | TTP-2410MT                                                                                                                                                                    | TTP-346MT | TTP-644MT | MH240        | MH340   | MH640   | MH240T  | MH340T  | MH640T  | MH240P  | MH340P  | MH640P  |
| Resolution                 | 203 DPI                                                                                                                                                                                                                          | 203 DPI                                                                                                                                                                                                                    | 203 DPI                                                                                                                                                                                           | 203 DPI                                                                                                                                                                                                                                                                                                                                               | 300 DPI                                                                                                                                                                                                                                                                                                         | 203 DPI                                                                                                                                                                                                                                                                                                         | 300 DPI                                                                                                                                                                                                                                                                                                                       | 600 DPI                                                                                                                                                                                                                                                                                                               | 203 DPI                                                                                                                                                                       | 300 DPI   | 600 DPI   | 203 DPI      | 300 DPI | 600 DPI | 203 DPI | 300 DPI | 600 DPI | 203 DPI | 300 DPI | 600 DPI |
| Max. Print Speed           | 4 IPS                                                                                                                                                                                                                            | 4 IPS                                                                                                                                                                                                                      | 4 IPS                                                                                                                                                                                             | 6 IPS                                                                                                                                                                                                                                                                                                                                                 | 4 IPS                                                                                                                                                                                                                                                                                                           | 8 IPS                                                                                                                                                                                                                                                                                                           | 6 IPS                                                                                                                                                                                                                                                                                                                         | 4 IPS                                                                                                                                                                                                                                                                                                                 | 14 IPS                                                                                                                                                                        | 10 IPS    | 4 IPS     | 14 IPS       | 12 IPS  | 6 IPS   | 14 IPS  | 12 IPS  | 6 IPS   | 14 IPS  | 12 IPS  | 6 IPS   |
| Max. Print Width           | 1.89"                                                                                                                                                                                                                            | 2.83"                                                                                                                                                                                                                      | 4.09"                                                                                                                                                                                             | 4.25"                                                                                                                                                                                                                                                                                                                                                 | 4.16"                                                                                                                                                                                                                                                                                                           | 4.25"                                                                                                                                                                                                                                                                                                           | 4.17"                                                                                                                                                                                                                                                                                                                         | 4.17"                                                                                                                                                                                                                                                                                                                 | 4.09"                                                                                                                                                                         | 4.09"     | 4.09"     | 4.09"        | 4.09"   | 4.09"   | 4.09"   | 4.09"   | 4.09"   | 4.09"   | 4.09"   | 4.09"   |
| Max. Print Length          | 90"                                                                                                                                                                                                                              | 90"                                                                                                                                                                                                                        | 90"                                                                                                                                                                                               | 1000"                                                                                                                                                                                                                                                                                                                                                 | 450"                                                                                                                                                                                                                                                                                                            | 1000"                                                                                                                                                                                                                                                                                                           | 450"                                                                                                                                                                                                                                                                                                                          | 100"                                                                                                                                                                                                                                                                                                                  | 1000"                                                                                                                                                                         | 450"      | 100"      | 1000"        | 450"    | 100"    | 1000"   | 450"    | 100"    | 1000"   | 450"    | 100"    |
| Ribbon                     | X                                                                                                                                                                                                                                | X                                                                                                                                                                                                                          | X                                                                                                                                                                                                 | X                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                 | 300 m                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                               | 300 m                                                                                                                                                                                                                                                                                                                 | 600 m                                                                                                                                                                         |           |           | 600 m        |         |         |         |         |         |         |         |         |
| Memory                     | <ul style="list-style-type: none"> <li>128 MB Flash memory</li> <li>64 MB SDRAM</li> </ul>                                                                                                                                       | <ul style="list-style-type: none"> <li>4 MB Flash memory</li> <li>8 MB SDRAM</li> </ul>                                                                                                                                    | <ul style="list-style-type: none"> <li>16 MB Flash memory</li> <li>32 MB SDRAM</li> <li>microSD card reader for Flash memory expansion, up to 4 GB</li> </ul>                                     | <ul style="list-style-type: none"> <li>128 MB Flash memory</li> <li>64 MB SDRAM</li> </ul>                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>128 MB Flash memory</li> <li>128 MB SDRAM</li> <li>microSD card reader for Flash memory expansion, up to 32 GB</li> </ul>                                                                                                                                                | <ul style="list-style-type: none"> <li>128 MB Flash memory</li> <li>128 MB SDRAM</li> <li>microSD card reader for Flash memory expansion, up to 32 GB</li> </ul>                                                                                                                                                | <ul style="list-style-type: none"> <li>128 MB Flash memory (factory option 512 MB)</li> <li>128 MB SDRAM (factory option 256 MB)</li> <li>SD Flash memory card reader for Flash memory expansion, up to 32 GB</li> </ul>                                                                                                      | <ul style="list-style-type: none"> <li>128 MB Flash memory</li> <li>128 MB SDRAM</li> <li>microSD Flash memory card reader for Flash memory expansion, up to 32 GB</li> </ul>                                                                                                                                         | <ul style="list-style-type: none"> <li>512 MB Flash memory</li> <li>256 MB SDRAM</li> <li>microSD Flash memory card reader for Flash memory expansion, up to 32 GB</li> </ul> |           |           |              |         |         |         |         |         |         |         |         |
| LCD/LED                    | <ul style="list-style-type: none"> <li>4 LEDs &amp; 3-button menus</li> </ul>                                                                                                                                                    | <ul style="list-style-type: none"> <li>5 LEDs and 3-button menus</li> </ul>                                                                                                                                                | <ul style="list-style-type: none"> <li>1 LED with 2 button menus</li> <li>LCD display with 4-button menus (optional)</li> </ul>                                                                   | <ul style="list-style-type: none"> <li>1 LED (3 colors: green, amber &amp; red)</li> </ul>                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>LED panel with 8 big icons &amp; 1 button menu</li> </ul>                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>6-button menus and 3.5" color TFT display</li> </ul>                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>6 button menus and 3 LEDs</li> <li>4.3" color touch LCD panel</li> </ul>                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>6 button menus and 3.5" color TFT display</li> </ul>                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>6 button menus and 1 LED</li> <li>4.3" color touch LCD panel</li> </ul>                                                                |           |           |              |         |         |         |         |         |         |         |         |
| Interface                  | <ul style="list-style-type: none"> <li>PCBA1 : USB 2.0, Bluetooth</li> <li>PCBA2 : USB 2.0, MFi, Bluetooth</li> <li>PCBA3 : USB 2.0, 802.11 a/b/g/n Wi-Fi</li> <li>NFC (factory option)</li> <li>RS-232 (user option)</li> </ul> | <ul style="list-style-type: none"> <li>PCBA1 : USB 2.0</li> <li>PCBA2 : USB 2.0, Bluetooth</li> <li>PCBA3 : USB 2.0, MFi Bluetooth</li> <li>PCBA4 : USB 2.0, 802.11 a/b/g/n Wi-Fi</li> <li>RS-232 (user option)</li> </ul> | <ul style="list-style-type: none"> <li>PCBA1 : USB 2.0, Bluetooth</li> <li>PCBA2 : USB 2.0, MFi Bluetooth</li> <li>PCBA3 : USB 2.0, 802.11 a/b/g/n Wi-Fi</li> <li>RS-232 (user option)</li> </ul> | <ul style="list-style-type: none"> <li>PCBA1 : USB 2.0, RS-232, Internal Ethernet, USB host, for scanner or PC keyboard</li> <li>PCBA2 : USB 2.0, Internal Ethernet, 10/100 Mbps</li> <li>Internal 802.11 a/b/g/n wireless (factory option)</li> <li>Internal Bluetooth (factory option)</li> <li>External Bluetooth (RS-232, user option)</li> </ul> | <ul style="list-style-type: none"> <li>USB 2.0</li> <li>RS-232</li> <li>Internal Ethernet, 10/100 Mbps</li> <li>USB host, for scanner or PC keyboard</li> <li>Centronics (factory option)</li> <li>Slot-in 802.11 a/b/g/n wireless (dealer option)</li> <li>External Bluetooth (RS-232, user option)</li> </ul> | <ul style="list-style-type: none"> <li>USB 2.0</li> <li>RS-232</li> <li>Internal Ethernet, 10/100 Mbps</li> <li>USB host, for scanner or PC keyboard</li> <li>Centronics (factory option)</li> <li>Slot-in 802.11 a/b/g/n wireless (dealer option)</li> <li>External Bluetooth (RS-232, user option)</li> </ul> | <ul style="list-style-type: none"> <li>USB 2.0</li> <li>RS-232</li> <li>Centronics</li> <li>Internal Ethernet, 10/100 Mbps</li> <li>USB host, for scanner or PC keyboard</li> <li>GPIO (factory option)</li> <li>Slot-in 802.11 a/b/g/n wireless (dealer option)</li> <li>External Bluetooth (RS-232, user option)</li> </ul> | <ul style="list-style-type: none"> <li>USB 2.0</li> <li>RS-232</li> <li>Internal Ethernet, 10/100 Mbps</li> <li>USB host * 2, for scanner or PC keyboard</li> <li>GPIO + Centronics (factory option)</li> <li>Internal Bluetooth (factory option)</li> <li>Slot-in 802.11 a/b/g/n wireless (dealer option)</li> </ul> |                                                                                                                                                                               |           |           |              |         |         |         |         |         |         |         |         |
| Physical Dimension (WxHxD) | 89.3 mm x 134.5 mm x 56.5 mm<br>3.52" x 5.3" x 2.22"                                                                                                                                                                             | 116 mm x 148 mm x 70 mm<br>4.57" x 5.83" x 2.75"                                                                                                                                                                           | 160 mm x 191.6 mm x 79 mm<br>6.30" x 7.54" x 3.11"                                                                                                                                                | 172 mm x 165 mm x 195 mm<br>6.77" x 6.50" x 7.68"                                                                                                                                                                                                                                                                                                     | 226 mm x 198 mm x 332 mm<br>8.90" x 7.80" x 13.07"                                                                                                                                                                                                                                                              | 226 mm x 200 mm x 332 mm<br>8.90" x 7.80" x 13.07"                                                                                                                                                                                                                                                              | 270 mm x 308 mm x 515 mm<br>10.63" x 12.13" x 20.28"                                                                                                                                                                                                                                                                          | 276 mm x 326 mm x 502 mm<br>10.87" x 12.83" x 19.76"                                                                                                                                                                                                                                                                  | 276 mm x 412 mm x 502 mm<br>10.87" x 16.22" x 19.76"                                                                                                                          |           |           |              |         |         |         |         |         |         |         |         |

\*Product models and Specifications are subject to change without notice.

|                      | Alpha-2R | Alpha-3R | Alpha-4L | DA220 Series | TX200 Series | TTP-2410MT Series | MH240 Series |
|----------------------|----------|----------|----------|--------------|--------------|-------------------|--------------|
| Shipping & Receiving |          | ●        |          |              | ●            |                   |              |
| Inventory Control    |          |          | ●        |              |              | ●                 |              |
| Distribution         |          |          |          | ●            |              |                   | ●            |
| Pick up & Delivery   | ●        | ●        |          |              |              |                   |              |







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