mpx User Guide
for Hanel MP12N Controller
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<th>Date</th>
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<th>Who</th>
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<td>1 May 2010</td>
<td>1.0</td>
<td>HD</td>
<td>First release</td>
</tr>
<tr>
<td>10 June 2011</td>
<td>1.1</td>
<td>HD</td>
<td>Minor edits</td>
</tr>
<tr>
<td>02 October 2012</td>
<td>2.0</td>
<td>AA</td>
<td>Major revision.</td>
</tr>
<tr>
<td>15 October 2012</td>
<td>2.1</td>
<td>AA</td>
<td>Screen Navigation added plus revisions.</td>
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Notes
Due to minor revisions and releases, any screen shots may vary slightly to those found in this document.
# mpx User Guide
for Hänel MP12N Controller

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1 INTRODUCTION

1.1.1 Intended Audience

This quick reference guide is designed and intended for use by those people operating a Hanel storage system equipped with an MP12N Controller running mpx software.

1.1.2 Assumed knowledge

- Operation of a simple keyboard & touch-screen controller
- Some basic familiarity with computer interfaces
- Basic understanding of stock movement – in and out of a storage environment

1.1.3 List of Abbreviations & Terminology

- WMS: Warehouse Management System.
- SKU: Stock Keeping Unit – part number for an Article or product item.
- UOM: Unit Of Measure – associated with the Article or SKU, always a description such as each, pack, kg.
- BOM: Bill Of Materials – A list of articles or items, that make up a predefined order. A BOM is treated in a similar manner to a Job
- JOB: Within mpx documentation a Job is synonymous with an Order (or customer Purchase Order) which is a pick list of SKUs grouped as one task, or Job.
2 OVERVIEW

2.1 What is a Hanel MP12N Controller

This is the control system for managing all operations at the Hanel lift.

It consists of a button-style keyboard and touch-screen, which may be mounted in various locations on the Hanel lift.

For the remainder of this document the Hanel MP12N Controller will be abbreviated to “lift controller” with references to the “touch-screen” and “keyboard” of the lift controller.

Typical Hanel MP12N Controller

2.2 What is mpx?

mpx is software that provides an easy to use interface for lift controller to manage movements of stored items into and out of the Hanel storage system.

Optionally but typical for almost all installations, mpx may be connected to a customer’s warehouse management system to seamlessly pass stock movement information directly to the Hanel MP12N Controller.

Home Screen on mpx software
2.3 Where does mpx software run?

mpx software is installed and runs on a PC using Microsoft Windows and connected to the company network. Typically to ensure high availability, it is installed on a company network server.

The Hänel lift also needs to be on the same network so the mpx software can control the lift controller touch-screen and manage lift functions.

2.4 Access Control

Note that access to any or all of the options and functions available in the software and described in this document may be restricted by your security level assigned to your user access code set by your system administrator.

2.5 Navigation in this document

If you are reading this document on a computer, you will find the Table of Contents, various headings and named items have links, by clicking on these links you will be taken directly to the relevant section.

If you are using a printed copy, use the Table of Contents to navigate the document.
3  **MP12N CONTROLLER LAYOUT**

**Screen Area A – Main Window**
Where most information is displayed and functions performed by pressing the touch-screen.

**Screen Area B – Current Lift Information**
The illustrations indicate the lift number, access point number and shelf that are associated with this controller and the current task.

**Screen Area C – Status Field**
Machine status display, once initialised and with an active connection to the network and host mpx software, will display “Host Web Server Active”

**Screen Area D – Not Used**

The green enter key (or return key ) is used for confirming most actions, including all those that require a shelf movement.

The lift can be stopped in the middle of a shelf movement by pressing the red Stop key. Usually you should wait for a shelf movement to complete and if done in error, then the shelf returned. However when essential, the lift can be halted immediately using this key.

The yellow CE key can be used to clear an error in data entry and also for clearing an interrupted light curtain (in conjunction with the Enter key).
The arrow keys are used to retrieve or return a shelf on the Hanel Lean-Lift. On the Hanel Rotomat, the arrow keys will rotate the carrier shelves up or down.

The job button will take you to the user defined jobs where you can then select a job to add to the current list of pending jobs. (User Defined Jobs are created using mpx-Dashboard, and is usually only done when there is no connection to the customer host system).

The X? button while displaying search results will display previous search result.

The backspace is useful for correcting typing errors when entering article information.

The remaining function keys are generally not used in typical operation.
# Getting Started

## 4 Powering On

Anytime the Hanel lift is powered on using the main power switch on the front of the lift, the lift controller will go through a start up sequence.

During the power on initialisation, the operator will be prompted several times to press the green Enter key on the controller keyboard.

At the end of the initialisation the mpx Login screen will be displayed (a padlock). You will need a password to login and use the mpx software control system.

![Login screen](image)

## 4.2 Upper Status Bar

At the end of the initialisation sequence, the central blue area will display “Host Web Server Active” – this indicates correct power on sequence has completed.

The illustrations on the left indicate the lift number, access point number and shelf that are associated with this controller and the current task.

![Status Bar at top of controller screen](image)
4.3 Main Window

Below the Status Bar is the main window where most information is displayed and functions performed by pressing the touch-screen.

4.4 Lower Status Bar

At the bottom of the screen, depending on what function you are performing, a status bar is displayed offering further functions.

- Pressing the left icon will take you to the Home screen.
- Pressing the left arrow will take you back one screen.
- Pressing the double left arrow and double right arrow will scroll through a list.

- Pressing the left printer icon (with “1”) will print one bar code label for the item highlighted.
- Pressing the right printer icon (with “X”) will print labels for all items listed, note this may produce many labels!
5 **SCREEN NAVIGATION**

5.1 **Home Screen**

There are three buttons on the home page that will open the three main sections of the mpx system.

![Home screen](image)

Each function will summarised using screen navigation examples on the following pages of the Navigation section:

- **Job List**
- **Search**
- **System Tools**

For further details each function is described in the following sections:

- **Job List Icon**
- **Search Icon**
- **System Tools Icon**
5.2 Job List

5.2.1 Standard (Sequential) Job Mode

This is the standard process for most mpx implementations.

5.2.2 Batched Job Mode

When installed with the mpx-Batch system controllers and Put-To-Light LED system at the sort/pack bench, both Standard Job Mode and Batched Job Mode are available.
5.3 Search

For further details see Navigation Examples and the Search Icon sections.
5.4 System Tools

**LOGIN**

**HOME**
- Job List
- Search
- System Tools

**SYSTEM TOOLS**
- Optimisation Run (Density)
- Optimisation Run (Access Point)
- Stocktake (Article)
- Stocktake (Shelf)

**STOCK LIST**
- Count

**STOCKTAKE**

**SHELF SELECT**
6 SCREEN NAVIGATION - EXAMPLES

6.1 Pick or Put
6.2 Put New Article in New Location

LOGIN

HOME

Job List

Search

System Tools

SEARCH

SEARCH RESULTS

CREATE ARTICLE

AVAILABLE OR NEW LOCATION

CREATE NEW LOCATION

CHECK

CONFIRM

Search Again

Proceed

Select

ARTICLE PUT
7 JOB LIST ICON

(A “Job” or Jobs, is a list of picks with predefined items and quantities to be picked, often derived from a customer order).

7.1 Host System Interface

No Host Interface

If your Hänel lift and mpx software has not been interfaced with your WMS or ERP then the Job List function is only available if one or more Jobs (or BOM) are manually created using mpx-Dashboard.

With Host Interface

If the mpx software has been interfaced with your WMS then the Job List icon will be active and can run in either of the two following modes.

7.2 Mode 1: Standard (Sequential) Job Processing

If your Hänel & mpx software has been interfaced with your host WMS or ERP system, then this connection will allow jobs to be passed from your host system to the Hänel lift.

When a job or jobs has been sent to the Hänel lift (and comprises at least one item to be picked), then the job list icon is displayed showing the number of picks ready to be done (when more than 9 the symbol ‘+’ is shown).

Press the job list icon on the Home screen and the queued job list will be displayed.
Job List Screen

The Job may include a name or description, a customer, the priority or urgency set by the host system, and a time stamp.

Jobs may be processed in the order listed or by selecting any job from the list – by pressing the Process button.

### 7.3 Mode 2: Batched Job Processing

Optionally, mpx can be installed and configured to run in “Batch” mode (mpx-Batch). This requires additional hardware (see mpx-Batch User Guide supplement).

The only difference running in Mode 2: Batched Processing is that all the Jobs have been group into one large pick list. Therefore as there are no individual Jobs to be listed, pressing the Job List icon will immediately start the lift and retrieve a shelf and display the Pick screen.
8 SEARCH ICON (SEARCHING, PICKING AND PUTTING)

8.1 Using the Search screen

The Search screen is used to find specific items within your inventory.

You can go to the Search screen by pressing the search icon on the Home screen.

Enter a search term or reference number in the search field. Press Enter on the controller keyboard to run the search.

8.1.1 Search Criteria

- Note that at least three characters are required to search, the more characters entered the shorter the results list.

- The search will access both the Article Description and Article ID (SKU) for a possible match.

- The search criteria used can include a “wildcard” to modify the search, by using the ? character.
8.2 Search Results Screen

The search results screen is then displayed showing all articles that contain the search criteria that was entered.

8.2.1 Search with Multiple Matches

Typically there will be several possible matches for the search criteria, depending on how many characters were entered in the search field.

The results are displayed in a list on the Search Results screen.

8.2.2 Search with Exact Match

With enough characters entered in the search field, a direct match is possible. In this case the Search Results screen is bypassed and you are taken directly to the Select screen.
8.3 Search Screen Icons

Select Article

Press Select to select the item and view more information on the Article screen.

Article Image

If you are searching for an article and have shortlisted possible results but are unsure which article to select in a list, you can confirm the article by viewing an image of it.

<table>
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<th>Select</th>
<th>Description</th>
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<td>E12VS694A700-02</td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
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</tr>
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<tr>
<td></td>
<td>Z247A1000310</td>
</tr>
<tr>
<td></td>
<td>STEEL BALL, D3</td>
</tr>
</tbody>
</table>

With a search results list displayed, click the Article image icon to see a photograph of the first Article in the list (if photos were added to the database).

You can step through the photos using the Scroll buttons and when the desired Article image is displayed click the Select icon to confirm.

If you are still unable to locate the correct Article, press the back arrow icon and keep searching.

Items in Lift

This icon indicates items matching the search criteria that are in this lift. This is the default view when doing a search.
Items in all Lifts

This icon indicates items matching the search criteria that are in lifts on this network (when more than one lift is installed). Pressing this icon will list all items matching the search criteria, in all lifts.

Items in Article Master List

This icon indicates the number of items matching the search criteria that exist in the Article Master List (complete inventory), but have not yet been stored in a location.

Create New Article

If the article does not exist in the database, pressing this icon will take you to the Create New Article screen where details of the Article can be created.

Note, the Create New Article icon is typically disabled (by the administrator using mpx-Dashboard) as creating a new article is most often done in the host system.

Back

Press to go back a screen.

Home

Press to return to the Home screen.

Scroll

When there is more than one page of search results, press ▶ to view the next page, or ◀ to view the previous page.
8.4 Using the Select screen

When you run a search on the Search screen, you can press the Select icon to view more details of the item. These details are displayed on the Select screen.

The Select screen displays the:

- Article Part Number
- Article Description
- Article Location – S/C/D – Shelf. Compartment (left to right), Depth (front to rear)
- Batch Code – if used
- Expiry Date – if used
- Quantity – in this lift

### 8.4.1 One Article – Multiple Locations

Note that if one article has been stored in multiple locations, all locations for that article will be listed, as in following example.

Screen functions and options remain the same, however the operator must choose which location to Pick from or Put to.
From the Article screen you can take several actions.

The most common actions on the Select screen would be Pick an item from the lift, or to Put an Article into the lift:

### 8.4.2 Pick

Press the **Pick** icon. The lift will retrieve the shelf containing the Article and display the **Pick** screen. The **Pick** screen displays the shelf location of the Article to pick.

### 8.4.3 Put

Press the **Put** icon to store an item in the location on the **Put** screen.

### 8.4.4 Other Select Screen Functions

Press the **Available** location icon to view a list of locations that are available for storage on the **Available** screen.

Press the add **New** location icon to open the **New Location** screen. On this screen you can create a new shelf location where Articles can be stored, find details on an existing location, or find a space that is large enough for your requirements.

Click ← to return to the **Search** screen.
8.5 Using the Pick screen

The Pick screen is used to select an item from a location.

The Pick screen can be accessed after searching for an item, opening the Article screen, and pressing the Pick icon.

A diagram of the compartments in the current shelf is displayed. The compartment containing the item to be picked is highlighted in red.

For a manual pick, enter the pick quantity in the Pick field and press the green Enter button on the controller keyboard to confirm the pick.

For a job or batch pick, the quantity to pick is already displayed in the Pick field.

Pick the requested quantity. If the quantity picked is correct (sufficient stock), press the green Enter button on the controller keyboard to confirm, and proceed to the next item to pick. (If there is insufficient stock in the lift, it can be short picked and the quantity actually picked entered into this field).

(The Expires, Batch, Tote & Confirmed fields are displayed only if they apply to your environment).

![Pick Screen](image_url)
8.6 Using the Put screen

The Put screen is used to store an item in a selected location.

To access the Put screen:

1. Search for an item from the Home screen.
2. On the Search screen click Select.
3. On the Article screen do one of the following two things:
   - Click Available. On the Available page click Get.
   - Click Put.

The current location is highlighted in red. Available locations are shown in yellow.

To complete the process to store an item:

1. Enter a Quantity to be stored.
2. Optional: Enter a Batch Code, Reference Number and/or Expiry Date.
3. Press Enter on the keyboard. The Search screen is re-displayed.
8.6.1 Printing Article Labels

Use the and buttons to print labels for your article.

- The "1" button will print one label.
- The "X" button will print multiple labels (either the value in the Quantity field, or one item for each item stored in the lift if a Quantity is not entered).

For example, if you are adding quantity 12 of an item and require a label for each item, enter 12 in the Quantity field and press the "X" icon, this will result in 12 labels being printed.
8.7 Using the Available (locations) screen

The Available (locations) screen is displayed when you select an item from the Search screen.

This screen shows a list of empty locations where the item you have selected can be stored. (These locations, their size and position have been previously defined using the New Location screen).

Click Get to retrieve the shelf and display the Put screen for the selected shelf and compartment location, and store the item.

![Available Locations screen]
8.8 Using the New Location screen

The *New Location* screen is used to find suitable locations where items can be stored. The New Location screen can be accessed from the Article screen by clicking on the New Location icon.

Enter a **Shelf** number and click **View** to bring that shelf to the access point for inspection to see if the shelf is suitable for storing the selected item.

To store in a new location, enter a **Compartment**, **Depth** and **Width**. Click **Next**. The shelf is brought to the access point. The compartment is highlighted on the pick light rail where fitted to the Hanel unit.

To find a suitable space for your item, use the **Find Space** section. Enter a **Width** and **Depth**. Click **Find**. A list of suitable locations within the lift is displayed. Select a preferred location and you will be returned to this screen with the Compartment, Depth, and Width fields pre-populated with the values, you can then press the Next icon to proceed.

*New Location Screen*
9 SYSTEM TOOLS

9.1 Using the System Tools screen

The System Tools screen can be opened from the Home screen by pressing the System Tools icon.

9.1.1 Optimisation Run (Density)

The Hanel Lean-Lift will always try to position shelves as close together as possible to maximise the available storage space. There are times when if there are a lot of changes in product height on shelves, this may cause some excessive gaps between shelves to occur. These gaps can be minimised by occasionally running the Optimise function.

Press the Optimisation Run (Density) icon to compact the shelves within the Lean Lift to increase the available space. (Not available with the Rotomat).

9.1.2 Optimisation Run (Access Point)

Press the Optimisation Run (Access Point) icon to bring the most frequently used shelves closest to the access point while minimising space between shelves.
9.1.3 Stocktake (Article)

Press the Stocktake (Article) icon to perform a stocktake for specific items using the Article Stocktake screen.

9.1.4 Stocktake (Shelf)

Press the Stocktake (Shelf) icon to perform a stocktake on a specific shelf using the Shelf Stocktake screen.
9.2 Using the Shelf Stocktake screen

The *Shelf Stocktake* screen is accessed from the *System Tools* screen.

This screen is used to complete a stocktake on a specific shelf.

Enter a shelf number in the **Stock Take Shelf** field and press **Enter**.

A list of all articles on the shelf is displayed (on the *Article Stocktake* screen). Use **->** to move to the next page of articles.

To conduct the stocktake on a specific item click **Count** to open the *Article Count* screen.

*Shelf Stocktake screen*
9.3 Using the Article Stocktake screen

The Article Stocktake screen is accessed from the System Tools screen by pressing the Article Stocktake icon.

This screen is used to complete a stocktake on a specific item.

A list of all articles is displayed. Use ▶ to move to the next page of articles.

To conduct the stocktake on a specific item click Count to open the Article Count screen.

![Article Stocktake Screen](image-url)
9.4 Using the Article Count screen

The Article Count screen is accessed through the Article Stocktake screen.

The expected quantity is displayed in the Quantity field.

By default the expected quantity field is pre-populated with the expected quantity.

The operator should count the items, and enter the actual number in the Count field. Press Enter to submit the result and return to the Article Count screen.

![Article Count Screen](image-url)
Feedback and suggestions on improving this document are welcome.

Please email your comments to support@restudio.net.au