

White Paper

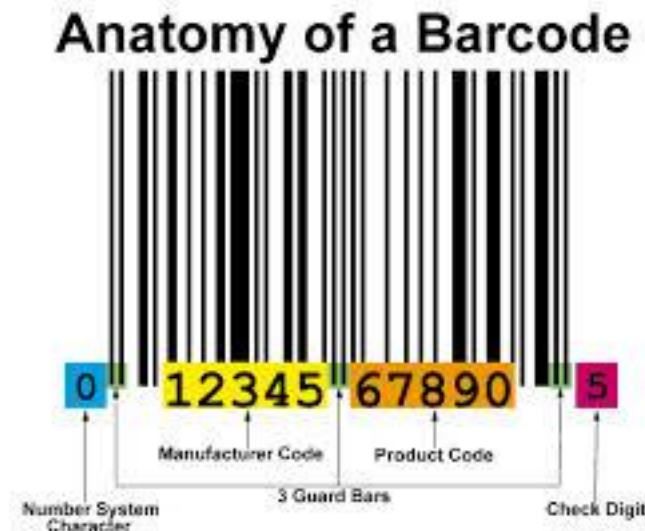
Barcoding

White Paper Barcoding

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What is a barcode?

A barcode is quite simply a graphical representation of a number. It's a machine-readable code in the form of numbers and a pattern of parallel lines (1D) of varying widths. Barcodes have since evolved into rectangles, dots, hexagons and other geometric patterns in two dimensions (2D) printed on a commodity and used especially for stock control.



There are many formats, called 'symbolologies' (like fonts). They vary in performance and specifications however, most standard one dimensional (1D) formats are read by most scanners.

The QR code and checkered flag type designs are called 2D barcodes and can hold much more data. Both 1D and 2D barcodes contain static data and if the data needs to change, a new barcode will be required.

The benefits

Simplicity

For the user in the field, the point and shoot nature of barcoding is super simple.

Scalability

The data encoded is scalable to the needs of your business. Once you require data from your database, just add more barcodes or more complex barcodes like 2D codes.

Durability

Barcodes can be affixed to just about any surface. If you need to put plant labels on your equipment or asset labels with your logo on your client's equipment you can ensure that they won't wash off and can withstand rugged use and still be scanned properly.

Accuracy

It's fast and it's accurate. Barcoding reduces human error, recognition errors and transcription errors. It is undeniably faster than handwriting or using a keyboard.

On average, every thousand keystrokes made by a human, result in 10 errors. Compare this with barcodes: for every ten thousand scans made by an optical scanner, there are an average of one error.

Inexpensive

The simplicity and speed of barcoding drastically reduces training time and labor. Across many industries, barcodes offer automatic product identification, extremely fast recognition.

Barcodes provide asset & security tracking, theft deterrence, peace of mind, and a demonstrable reduction in loss/liability. (Barcodes reduce liability.)

Barcoding and simPRO Enterprise

A barcode scanner enables a quick and simple method of retrieving and searching existing data from within simPRO Enterprise.

A barcode scanner is quite simply a Human Input Device (or HID), much the same as a keyboard or mouse. In fact most barcode scanners will fill the keyboard buffer with the data they scan so it is just like typing it in anyway.

Enterprise doesn't know whether you're using your keyboard or a barcode scanner. As long as the cursor is focused in the appropriate field, by scanning the barcode, the data is entered.

Most barcode scanners allow you to append a carriage return (Enter key) once the code is entered. This means, as soon as the data is entered into the field it becomes much like a search.

This opens a world of opportunity for simPRO Enterprise. Below we've listed some ideas.

Managing stock

Use barcodes to help control stock levels and movements.

Option 1: Produce barcodes in Enterprise

1. Navigate to the Catalogue or Storage Device
2. Select the items you'd like to print barcode labels for
3. Select Print Barcodes in the footer options

<input checked="" type="checkbox"/>	M10S	10W MAINTAINED EXIT SIGN	1.00	£102.00	99.00
<input checked="" type="checkbox"/>	RAW67134	6X35 PLASTIC PLUG RED	3128.00	£309.67	0
<input checked="" type="checkbox"/>	RJ1UCMPVN	PANEL 1RU CABLE MAN RING RUN PACK PROMOT	0	£0.00	0
<input checked="" type="checkbox"/>	RJ5/24PP	PATCH PANEL 24 PORT CAT5E 568AB UTP	10.00	£1,446.90	0
<input checked="" type="checkbox"/>	TEST-LABEL	TEST & LABEL	0	£0.00	0
<input type="checkbox"/> Select All Transfer to Storage Device Allocate to Job Print Barcodes					

Option 2: Use the original manufacturer's SKUs

You can also just choose to use the manufacturer's original SKUs. First, you'll need to teach Enterprise what they are.

1. Find the item within the Catalogue
2. Place your cursor into the search items field
3. Scan the barcode on the item
4. Click Finish

Next time you scan and search for that SKU, Enterprise will find the item for you. Enterprise will now be ready to work with your barcode scanner in stock related activities.

Catalogue / Air Movement & Heat / Ceiling Fans / JTC AIR HORIZON C/FAN 120CM 3B S/STL

Details Custom Pricing Suppliers Attachments Linked Items History Cancel Save **Finish**

Item Details

* Item Name: JTC AIR HORIZON C/FAN 120CM 3B S Part No.: 1203MSS Unit of Measurement: Not Selected

Search Items: JTC1203MSS

Trade Price £(ex GST): 99.3 Split Price £(ex GST): 0 Trade Split Quantity: 1

Minimum Pack Quantity: 1 Estimated Time (Mins): 0 Purchasing Stage: Not Selected

☐ Favourite ☒ Inventory item ☐ Make this item an asset

Asset management

Ever wished there was an easier way to work with those unwieldy sites with hundreds of Assets to maintain? Large lists of items to scroll through can be time consuming when you're looking for that one particular item.

Ordering the items into a walk order certainly helps, but you can also scan the asset barcode to find the asset instantly. Some devices can connect to an external scanner via bluetooth or usb and some devices have scanners built in (these are generally easier to use).

Note: be sure to check with simPRO first for compatibility before purchasing any hardware.

Again, there are two popular options.

Option 1: Have Enterprise print your barcode labels

You'll need to create a field on the Asset Type which is a barcode type field (like serial number) and populate this field with data for simPRO to convert into a barcode. Obviously it helps if the data in this field is unique.

1. Head to the asset builder
2. Edit the asset type
3. Go to Custom fields
4. Create a field with a field type of barcode.

Edit Asset Type

Asset Type Service Levels **Custom Fields** Test Readings Attachments

Existing Custom Fields

Field Name	Field Type	
Asset Number	Barcode	×
Level	List	×
Location	Text	×
Make	List	×
Model	List	×
Size	List	×
Install Date	Text	×
Pressure Test Due Date	Text	×
Comments	Text	×

Edit field

Field name: Asset Number

Mandatory Field: ☐ Mandatory / Required

Field type: ☐ Text ☐ Date ☐ List ☒ **Barcode**

Cancel Save

When you have assets of that type with that field populated simPRO will then be able to print your barcodes.

1. Open the relevant site
2. Go to the Customer Assets tab
3. Select the items you want the barcodes for
4. Use the footer options to Print Barcodes.

The screenshot shows the 'Customer Assets' tab in the simPRO interface. The filter is set to 'Fire Extinguisher'. The table below shows two assets, both with checkboxes in the first column. The 'Print Barcodes' link at the bottom is highlighted with a red box.

Order	Asset ID	Asset Number	Level	Location	Make	Model	Size	Install Date	Pressure Test Due Date	Start Date	Contract	Image	Service Levels								
<input checked="" type="checkbox"/>	1	185	4354435	Level Two	456546	Flamestop	DCP	1.0 kg		05/08/2013	ABC Enterprises - PPM Contract		<table border="1"> <thead> <tr> <th>Name</th> <th>Service Date</th> </tr> </thead> <tbody> <tr> <td>5 Yearly</td> <td>06/08/2014</td> </tr> <tr> <td>Annually</td> <td>06/02/2014</td> </tr> <tr> <td>Six Monthly</td> <td>05/02/2014</td> </tr> </tbody> </table>	Name	Service Date	5 Yearly	06/08/2014	Annually	06/02/2014	Six Monthly	05/02/2014
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At the bottom of the table, the 'Print Barcodes' link is highlighted with a red box.

Option 2: Use existing barcodes

Assign barcodes as you go

Sometimes it's easier to use existing barcodes or get a whole lot pre-printed, then on your next visit to site, stick one of the pre-printed barcodes on the asset or just scan the barcode already there.

Remember, most products are already barcoded. By adding that number into barcode asset field, it will reference that asset just fine.

To add the barcode to the asset on your mobile device

1. Find the asset in the list (last time you'll ever have to do that!) or register the asset from scratch
2. While you're editing the asset place your cursor into the field where you intend to store the barcode
3. Use your device to scan the barcode. Next time you're there, put your cursor in the search field then use the barcode scanner to bring up the asset you're in front of. There are loads of different options for scanners for all sorts of different devices out in the field, just ask your mobile provider for some ideas!

Optimised stocktake and stock transfer

simPRO Enterprise makes it easy to rapidly transfer items from one storage device to another using barcodes. This is also a great way to perform stocktakes.

Use your normal simPRO login, but a different URL:

- Simply replace */staff* with */barcode*

Example: <https://your.normal.login/barcode>

These screen sizes have been optimised for use on mobile devices with connected barcode scanners.

The image displays two side-by-side screenshots of a mobile application interface, likely for stock management. Both screens show a status bar at the top with 'Telstra' as the carrier, a Wi-Fi icon, the time '3:05 pm', and a battery level of '73%'.

The left screenshot shows a 'Transfer From' screen. It has two input fields: the first contains 'Brisbane Warehouse' and the second contains 'Tims Van (Electrical)'. Below these is a 'Search' section with two buttons: 'Brisbane Warehouse' (highlighted in blue) and 'Catalogue'. Underneath is a label 'Enter Part to Search (% is wildcard)' followed by an empty text input field. At the bottom is a large blue button labeled 'Summary'.

The right screenshot shows a search results screen. It has a 'Search' section with the same two buttons: 'Brisbane Warehouse' (highlighted in blue) and 'Catalogue'. Below is the same 'Enter Part to Search (% is wildcard)' label and input field. The main content area displays the message 'No match for that stock item in "Brisbane Warehouse"'. Below this message is a large black button labeled 'Add Barcode'. At the bottom is a large blue button labeled 'Summary'.

Printing barcodes

The three popular methods of printing barcodes are: Laser Printing, Thermal Direct, Thermal Transfer.

Laser printing

These are popular for short-term indoor use such as shelf labels.

They might want to make some shelf labels for the guys vans or their books so they can scan them when they are consuming van stock. That's fine as they can print the list from the simPRO catalogue and using their windows/mac laser printer and the Avery laser label sheets purchase at their stationary shop.

It's important to note however, this is not a durable option. When they get wet they deteriorate rapidly and are therefore not suitable for Assets.

Laser is a powered adhesion. Upon close inspection you'll notice it has the potential to flake off after being continually handled inevitably resulting in scan failures.

Thermal direct

Uses a printer with heat sensitive paper. There are many types but they use a roll or labels that can be custom size. This is a problem for companies who write software as any print output must have dimensions and if it's not A4 page it's a custom form.

The reason why people love these printers is they can stick with ONE design and print a bazillion of them either one at a time or a whole bunch but only ONE format and size etc.

These are great for portable printers etc for POS but the labels definitely fade from sunlight and any friction etc so these are no good for our customers for anything.

Thermal transfer printing

This last method is predominantly used commercially for the bulk of barcode printing worldwide. The key difference here is that this method uses a wax or wax/resin ribbon.

This means that the resin can also be waterproof and/or scratch resistant.

It also means that you can use paper OR a synthetic material like a polypropylene (plastic) label with an adhesive suitable for harsh treatment.

This is what you can use for Assets like Fryers that get hot and tools that get lots of handling and abuse and still get a good scan on them.

These machines cost a bit more than their thermal transfer siblings but still need rolls of labels meaning we don't have many clients using them as they need custom forms etc.

Scanning barcodes

The barcode contains data that is digitally 'typed' by the scanner into the software instantly and accurately ensuring certainty. Some barcodes can have fields of data in the one string.

As the scanner moves (faster than we can see) from left to right, it's measuring the horizontal gaps which formulate characters in the decoder.

For warehouse applications proper Laser or LED scanners are required for high volume use to perform stock transfers and stocktake tasks.

The scanner will only dump text into a field. The correct field must be selected prior to scanning for the software to do its job.

Camera scanners are used for low volume scanning which makes them suitable for our light use in simPRO Connect to scan asset numbers and light stock use.

Future stages of Connect development will include this format opening up better support for multiple hardware platforms that require scanning. We'll also continue to improve usability as the software will be more aware of where the data needs to go once it is scanned.



Summary points for simPRO clients

1. simPRO supports barcoding. We can scan it, print it and understand it. But simPRO is not a full traditional WMS – Warehouse Management System.
2. Customers can print shelf labels from simPRO using their current laser printer.
3. Labels for Assets: it's worth considering buying a roll of sequentially numbered barcodes that have been printed on synthetic labels. Some suppliers will also add your logo for additional branding. When using simPRO Connect to add the Asset you can scan or type the asset number of the label straight into the system. Cheap and easy.
4. If you have small goods inwards/outwards dock you can use a \$200-\$400 usb scanner they plug into an economical laptop.
5. For more industrial situations consider a Wireless Bluetooth version that behaves like a keyboard (you'll need a PC screen for visual confirmation).
6. For heavy stock use you you'd be best to get an MDT (Mobile Data terminal) for around \$2000 - \$3000. This is a scanner and computer in one like a gun you see the staff in the department store use.



Remember: we have a login optimised for the screen size of this device. You can use your existing simPRO login to access by replacing /staff in your simPRO login URL with: /barcode