



# Barcodes Guide

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Version 4.2

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This Barcodes Guide deals with the setup and configuration of uniCenta oPOS after installation. It is a "How to" of key points for using Barcodes

# Foreward

The focus of this document is the creation of your own in-store barcodes for use with uniCenta oPOS in v4.2 and later.

For more information about how barcodes are constructed and their uses visit :

<http://www.gs1.org/> or <http://www.gtin.info/barcode-101/>

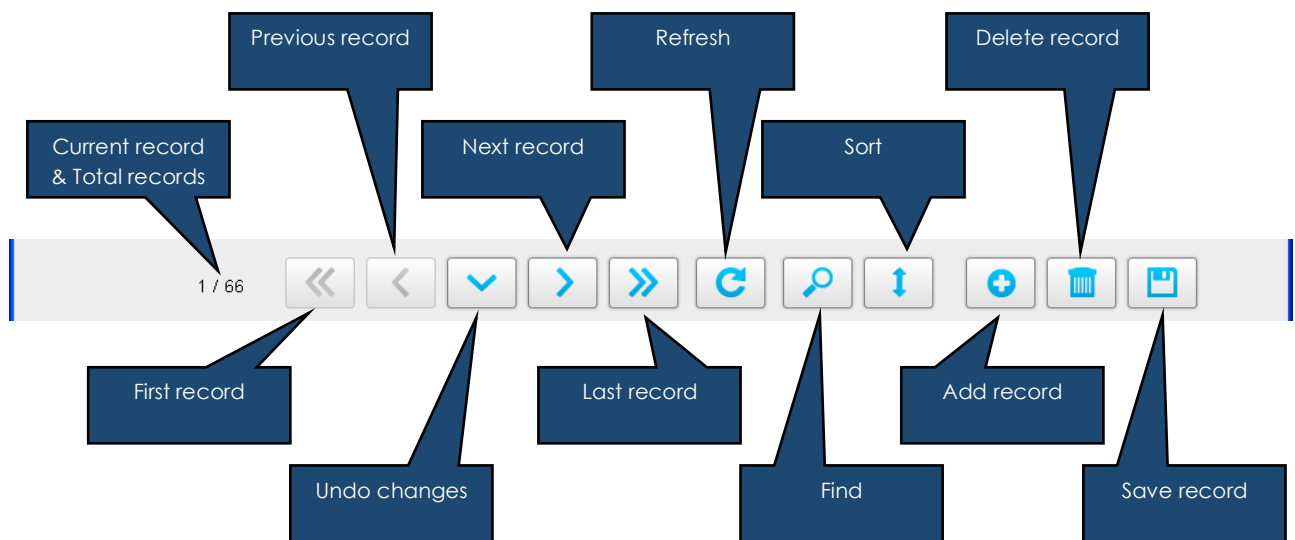
Take things step-by-step and try not to feel too intimidated. Follow this guide and you won't go far wrong.

Date	Version	Author	Comment
April 2016	1.0	Jack Gerrard	Released
June 2016	2.0	Jack Gerrard	EAN and UPC

## Useful things

### Editor Toolbar

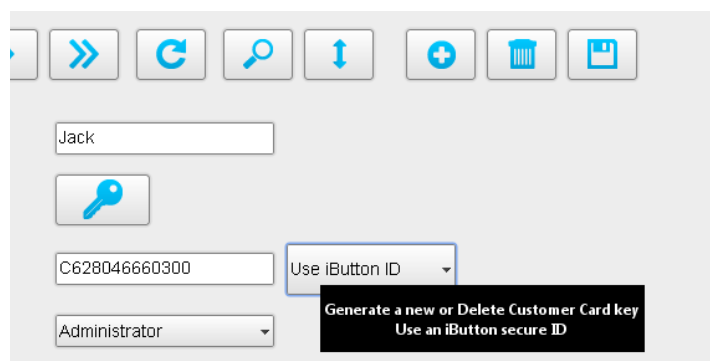
You will see this toolbar is used throughout uniCenta oPOS so here's a quick overview of what the buttons do. The Editor Toolbar appears in all record management forms.



### Tooltips

Lots of things in uniCenta oPOS use pop-up Tooltips.

All you have to do is hover your mouse pointer over a component for a second and it will give you a brief description of what it does. Tooltips are constantly being added or revised as uniCenta oPOS development progresses.



# BARCODES

uniCenta oPOS supports the use of GS1 EAN-13, EAN-8, UPC-A and UPC-E and CODE128 Barcodes in Products, Users and Customers modules.



uniCenta oPOS can handle both EAN-13 and UPC-A Price/Weight formatted barcodes.

Based on user feedback it has been generally found that weighing scales, with capability of printing barcode labels, output price/weight EAN-13 or UPC-A barcodes other than the examples above.



This real-user variable price/weight barcode example, produced by a Bizerba weighing scale, has all EAN-13 digits enclosed inside the guard-bars (the leftmost and rightmost vertical bars) whereas the above EAN-13 barcode image shows the first and last digits outside of the guard-bars.

EAN-8 and UPC-E barcodes are intended for attaching to small-sized product though that doesn't mean they can't be used for other things. For example a well-known European supermarket chain uses EAN-8 barcodes – starting 20 which denotes an in-store product - for all their own brand foodstuff and grocery products.

Setting up individual product records for each and every possible variation of a product's price or weight could be a laborious task, and in fact it is not necessary in uniCenta oPOS.

Creating a single "Master" product to automatically handle the different prices or weights is all that is needed.

CODE128 barcodes are used in the Users and Customers modules. Sections explaining their use can be found after the Product and Sales screen sections in this document.

Search the internet if you need more in-depth information about barcodes.

# USING BARCODES

## EAN-13

Example **PRICE : 01049**

**02** or **20** Price to **2** decimal **010.49**

**21** Price to **1** decimal **0104.9**

**22** Price to **0** decimal **01049**

Example **WEIGHT 01049kg**

**23** Weight to **3** decimal **01.049**

**24** Weight to **2** decimal **010.49**

**25** Weight to **1** decimal **0104.9**

## UPC-A

if the barcode begins with **02** then its a standard product

UPC-A maximum value limitation is 4 digits

UPC-A Extended is not supported at this time

If the **Sell Price** is set in the uniCenta oPOS Product record and UPC switch option is checked then it will be calculated as a Weighted item.

If the uniCenta oPOS Product's **Sell Price** is **0.00** then the barcode is calculated as a Price item.

# SCANNERS

Sometimes barcode scanners will work immediately with uniCenta oPOS other times you will need to configure them. Refer to the manufacturers configuration guide for your scanner.

Basically there are three types of barcode scanner connections:

1. **USB** – designed to act like keyboard input. These are generally Plug & Play and will be automatically recognized by the machines Operating System.
2. **Keyboard wedge** – like USB except that its connection is between a keyboard and the machine using a Y type connector.
3. **COM/Serial** – typically these have a 9-pin D type serial connector and plug in directly to a COM port on the machine.  
uniCenta oPOS only supports Scanpal2 or compatible scanners.

The required settings are :

- SPEED : 115200
- DATABITS : 8
- STOPBITS : 1
- PARITY : none

You may see this abbreviated to : 115200/8-N-1

Some scanner's default settings add a Carriage Return (CR) or Carriage Return + Line Feed (CRLF) after a scan and this will affect how a barcode read reacts in the Sales screen. CR or CRLF add one or two invisible characters to the end of a barcode and so an EAN-13 barcode for example will be up to 15 characters in length.

uniCenta oPOS attempts to detect the additional CR or CRLF and strip them from the barcode read by the scanner.

Another commonly found issue with some out-of-the-box scanner configurations is that the leading digit is ignored – this depends on the construct of printed barcode itself – and that means the barcode length is now only 12 digits and not 13 digits as expected from an EAN-13 barcode.

Combinations of the above two variable settings will cause irregular behavior and especially if you mix the use of both EAN and UPC barcodes to Products in uniCenta oPOS.

By default uniCenta oPOS is set to use EAN-13

See the uniCenta oPOS Configuration>System Options>Switch to UPC Barcodes option to use UPC

Tip: A simple way of testing how your scanner behaves is to open a text editor or other app' and compare the scan result to a pre-printed product barcode from something you have to hand.

## EAN In-store variable measure products start with 02

Use 02 followed by three digits to identify your own variable price/weight products. These are for use in your own store and you need to ensure they are unique and unambiguous. This “closed” system allows you to allocate and control your own numbers according to your needs.

The barcode number is formatted as follows:

Item reference	Price verifier	Item price	Check digit
02XXX	XX	PPPPP	C

<b>Item reference</b>	is allocated by you the retailer.
<b>Price verifier</b>	digits are tagged onto the Item reference by uniCenta oPOS which allows for 99,999 variations – opposed to only 999
<b>Item price</b>	allows for an item price up to 999.99
<b>Check digit</b>	will/should be calculated by your barcode software.

Examples using this structure for product barcodes could be : a greengrocer selling fruit and vegetables, a deli counter selling olives, a hardware store selling nails by the pound or a carpet store selling “cut to size” per metre in-store.

Let's assume a few things:

- You have a product called Rosemary-Infused Ham and want to offer it conveniently pre-packed to customers.
- It has a Selling Price of 18.57 per kg.
- You know the packed weight will vary once it's sliced.
- You have weighing scales that produce price/weight barcode labels.
- One of the packed item weighs 0.160kg



The barcode produced is EAN-13 and reads: 0209432002976

02	identifies it as an in-store variable price weight product
094	your in-store product identifier for Rosemary-Infused Ham
32	can be any number 0-99 – remember it is part of the product identifier
00297	the calculated packed price
6	check digit which could/should be calculated by barcode software

## UPC-A In-store variable measure products start with 2

Use 2 followed by six digits – the Identifier and Type - to identify your own variable price/weight products. These are for use in your own store and you need to ensure they are unique and unambiguous. UPC-A price/weight barcodes are slightly different to EAN-13 and in some ways are less flexible than EAN-13. This “closed” system allows you to allocate and control your own numbers according to your needs.

UPC-A barcodes that begin with **02** are used in most consumer products – mainly in the USA - and shouldn't be confused with a leading 2 digit used for your own internal Product item reference.

The barcode number is formatted as follows:

Item reference	Identifier	Type	Item price	Check digit
<b>2</b>	XXXXX	T	PPPP	C

<b>Item reference</b>	is allocated by you the retailer.
<b>Identifier</b>	usually an unique product code
<b>Type</b>	denotes whether Weight or Price
<b>Item price</b>	allows for an item price up to 99.99
<b>Check digit</b>	will/should be calculated by your barcode software.

Using the same example, and with the same assumptions, as before

The barcode produced is UPC-A and reads: 209432002976

2	identifies it as an in-store variable price/weight product
09432	your in-store product identifier for Rosemary-Infused Ham
0	0 declares this barcode is a Price value
0297	the calculated packed price
6	check digit which could/should be calculated by barcode software

# PRODUCTS

## Create the “Master” product record

The screenshot shows the 'General' tab of a product creation form in uniCenta oPOS. The title bar indicates the product is '0209432000000 - Rosemary Infused H...'. The form contains the following fields and values:

Field	Value
Reference *	0209432000000
Barcode *	0209432000000
Barcode Type	EAN-13
Name *	Rosemary Infused Ham
Category *	Deli
Attributes	[Empty dropdown]
Mandatory	<input type="checkbox"/>
Tax Category *	Exempt
Sell Price inc' *	£18.57
UOM	Kilo
Sell Price exc'	£18.57
Gross Profit	
Margin	
Buy Price *	£10.00
	46.15%
	85.7%
Supplier	[Empty dropdown]
Supplier Icon	

This example uses EAN-13 and the main things to get right are the Barcode and Selling Price inc'.

**Reference :** Your own in-store unique for the product (it's the same as the Barcode here simply for convenience)

**Barcode :** **EAN-13**

All that is needed here are the first 7(seven) digits 0209432 - which identify it as an in-store Rosemary-Infused Ham price weight product. Then add 6(six) zeros to create a 13(thirteen) digit number.

**UPC-A**

Again the first 7(seven) digits of the barcode 2094320 followed by 5(five) zeros to create a 12(twelve) digit number.

**Barcode Type :** It is not necessary to set this to EAN-13 or UPC-A but it is good management as this is used elsewhere in uniCenta oPOS

**Selling Price :** The price per kg. This is the base price per whole unit and is used to calculate the pack's weight

Complete the rest of the fields as necessary.

*\* Latest uniCenta oPOS version (4.1.4) onwards allows for duplicate product **Name**; previous versions didn't.*

Now go to the Sales screen – see next page - and scan (you can also enter the barcode manually) the pre-packed Rosemary-Infused Ham item.

# SALES SCREEN

23-Apr-2016 17:18:48 **Jack's Bike Shop** powered by uniCenta

Item	Price	Units	Taxes	Value
Rosemary Infused Ham	£18.57	x0.16	0%	£2.97
Rosemary Infused Ham	£18.57	x1	0%	£18.57

0209432002976

**Jack - (04:35 484)**
**Subtotal** **Tax** **Total**  
**£21.54** **£0.00** **£21.54**

☐ OFF

ACCESSORIES  
 Deli  
 SPECIAL OFFERS  
 FRAMES  
 WHEELS  
 BIKES

Rosemary Infused

office - Shop  
jdbc:mysql://unicenta-server:3306/unicentaopos\_demo 36 MB of 990 MB

NO PRINTS Jack

## 1<sup>st</sup> line displays scanned results for 0209432002976

This matches the product with the info' of the packaged item and with the correct Selling Price per kg and the calculated Units weight

## 2<sup>nd</sup> line displays scanned results for 0209432018576

This line was added to our example to show how entering a barcode with a Selling Price of 18.57 per kg returns a calculated value for Units x1 and matches that created in the product record

This report shows the -1.16 Units sold for the "Master" product

### Inventory: List Detail

Printed  
24/04/2016 5:44 AM

Deli				
Ref.	Name	Min.	Max.	Units
02094320000	Rosemary Infused Ham			8.84
Shop		5	20	-1.16
Reserve		0	0	10
				10

# USERS


23-Apr-2016 17:22:54 **Jack's Bike Shop** powered by uniCenta

**Users**

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uniCenta  
Anna  
Simon  
Pete  
Mo  
Kassy  
Jack  
Stephen  
Sean


Name \* Jack

Password 

Card ID C569093864794 Generate new key ▾

Role \* Administrator ▾

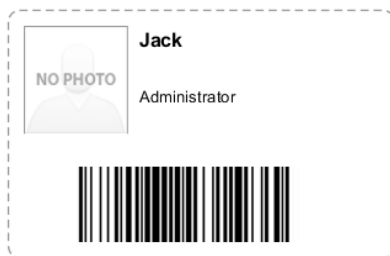
Visible ☒

Image 

office - Shop  
jdbc:mysql://unicenta-server:3306/unicentaopos\_demo 92 MB of 990 MB

Jack

**Card ID :** Use if you have a Magnetic Card Reader and want to use cards – instead of setting a Password – for User login. Enter the number manually or swipe a pre-printed card to complete the field.



This number is also used on a User card to include a CODE128 type barcode which can be scanned instead of using a Magnetic Card.

Click the comboBox to the right of the Card ID field for a list of options:

- Generate new key - starts with a C + 12 digits
- Clear existing key – Does as it says
- Use iButton ID – uniCenta oPOS uses Maxim's iButton. You will need to have purchased and installed an iButton reader and have some iButtons to use this option.

# CUSTOMERS

23-Apr-2016 17:24:56 **Jack's Bike Shop** powered by uniCenta

**Customers**

4 / 4

Claire  
Hugo Louis  
UNKNOWN  
uniCenta

Account ID: A1 Search Key: uni

Name: uniCenta

Card ID: c639187550301

Visible: ☒

Customer Tax Category: Exempt VIP: ☒ Discount: 10 %

Credit Limit: £1,000,000.00 Debt Date:

Current Debt:

Contact Address Transactions Photo Notes

First Name: Jack

Last Name: Gerrard

email: info@unicenta.com

Telephone: +44203 051 8601

Mobile Phone: +44 7777 123456

Fax:

office - Shop  
jdbc:mysql://unicenta-server:3306/unicentaopos\_demo 66 MB of 990 MB

**Card ID :** Use if you want to produce Member Cards for your Customers. Enter the number manually or swipe a pre-printed card to complete the field.  
The Card ID must always start with a lower-case c

uniCenta oPOS will recognise the scan of a Customer card whilst in the Sales screen and apply the Customer account to the current sales transaction.


Account: A1

Acc' Name: uniCenta

Holder: Jack

Address: 64-66 Millman Street

NO PHOTO



The number is used on the Customer card to include a CODE128 type barcode which can be scanned.