

## #1 Value Added Distributor of Edgware Products and Solutions

To: [[Contact:26]] / [[Company:25]]

### In this issue:

- Introduction to 2D Barcodes
- 2D Barcode Readers
- InfoDots – 2D Barcode Asset Labels
- UMD Surplus Stock
- End of Year Closure Details

## Introduction to 2D Barcodes

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After 30 odd years since the introduction of the “barcode”, most people are familiar with the traditional **1-Dimensional (1-D)** barcode, as typically found on consumer products.



----- 1 Dimension ----->

It is referred to as a 1D barcode, as information is coded only along 1 axis or dimension.

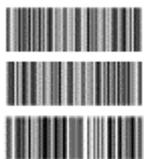
As a means of automatic data entry, barcodes have become popular due to their reading speed, accuracy and superior functional characteristics.

As the utility and applications of barcode grew, so has the market demand for barcodes capable of storing more information (or characters) and be printed in smaller spaces.

Various efforts have been made to increase the amount of information stored by bar codes, such as increasing the number of barcode digits or laying out multiple bar codes.

However, these improvements also caused problems such as enlarging the bar code area, complicating reading operations, and increasing printing cost.

**2-Dimensional (2D)** barcodes emerged in response to these needs and problems. As information is coded in 2 Dimensions, greater density is achieved.



Multiple bar code  
layout



2D Code with stacked bar codes  
(stacked bar code type)



2D Code (matrix type)

2D Code is also progressed from the original “stacked” bar code method (where individual barcodes are literally stacked on top of each other), to the more sophisticated **matrix** type barcodes which high information density.



## Types of 2D Codes

Like 1D barcodes there are several ways they can be encoded, referred to as **symbology**. Likewise, 2D barcodes also have different symbologies.

The following table provides a very brief overview of some of the most popular symbologies.

Symbology	QR Code	PDF417	DataMatrix	Maxi Code
Example				
Type	Matrix	Stacked	Matrix	Matrix
Data Capacity – Numeric	7089	2710	3116	138
Data Capacity – Alphanumeric	4296	1850	2355	93
Main Features	Large capacity, small print size, High scan speed	Large Capacity	Small print size	High Scan Speed

To read 2D barcodes you need a barcode reader that can scan a barcode in 2 dimensions. A standard image scanner as used in camera and video capture devices, does just this.

With the expansion of such low cost cameras, typically based on CCD technology, you will see a growing availability of 2D Barcode scanners at reduced cost.

As 2D barcode scanners can of course also read 1D barcodes, I would predict that with in 2 to 3 years, 2D barcode scanners will be the standard choice of barcode readers for most applications.

## 2-D Barcode Scanners

The following list provides a summary of **some** of the 2D barcodes scanners we support. A detailed list can be found at:

<http://www.umd.com.au/itd/products/contents.html#bar2>



### Denso GT10 2D Barcodes Scanner

The Denso GT 10Q-HR is the High-Resolution 2-D high performance CCD Barcode Scanners. The GT 10 series is designed to outperform most standard Laser scanners. Created in a lightweight, pistol grip style, with a 3 colour Red/Green/Blue LED, beeper, vibrator, and a versatile Magic Key, the GT 10 Series can be customised for many possible applications.

[Http://www.umd.com.au/itd/products/denso\\_gt10qhr.html](http://www.umd.com.au/itd/products/denso_gt10qhr.html)



### Denso QK11 2D Barcode Scanner for Mobile Phones

The QK11 QR Barcode Scanner is a fixed position 2D-barcode reader specifically designed for reading QR and Datamatrix codes from the displays of mobile phones.

This revolutionary technology opens up the possibility of integrating "virtual ticketing" and "electronic entry" systems into sporting venues, conferences, theatres, etc, all using the customers own mobile phone. The potential applications and convenience provided by this technology are unlimited



USB Interface

[http://www.umd.com.au/itd/products/denso\\_qk10.html](http://www.umd.com.au/itd/products/denso_qk10.html)



### Sick ITR6300 Ultra High Density 2D Barcode Scanner

The Sick IT6300 DPM is an industrial quality hand held barcode reader, specifically designed for the reading of direct part marked codes with ultra high resolutions.

Typical examples being 2D barcodes laser etched on medical instruments or reading InfoDots 2D Asset Labels (see next section)

[Http://www.umd.com.au/itd/products/sick\\_it6300dpm.html](http://www.umd.com.au/itd/products/sick_it6300dpm.html)

## Infodots – Special 2D Assets Labels



### InfDots – 2D Asset Labels

InfoDots are small robust self adhesive labels which are laser engraved with a unique 2-Dimensional DataMatrix barcode. Their ability to withstand harsh environments and strong adhesive properties, make them ideally suited for small parts tracking, such as medical instruments and tools.



InfoDots are available in three material options: Aluminium foil, Acrylic and Mylar.

<http://www.umd.com.au/itd/products/infodots.html>

# UMD Surplus Stock

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After 23 years in business one tends to accumulate a bit surplus or obsolete stock. You can find an updated list at:

<http://www.umd.com.au/ftp/pub/UMDSurplusStockSale.pdf>

Please feel free to pass it around and make us an offer.

## UMD End-Of-Year Closure Details

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UMD will be closed from

- Saturday **23rd December** 2006 to
- Monday **1st January** 2007 inclusive.

**OR** our last day will be

- Friday **22nd December** and we will resume on
- Tuesday **2nd January 2007**.

Unless otherwise arranged, our last delivery will be Thursday 21<sup>st</sup> December.

Finally, I would like to wish everyone a merry Christmas and happy New Year.

I hope you have found Uniquely Speaking of interest, and I look forward to any feedback on content for next year.

Regards

*Geoffrey Ramadan B.E.(Elec)*

Managing Director

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