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Colorbit USA Debuts Unique Auto-Id Technology At Rfid Journal Live!

Color-based coding solution allows users to read hundreds of codes in less than one second

Colorbit USA, LLC, recently announced the North American debut of its color-based automatic identification technology at the upcoming RFID Journal LIVE! conference and exhibition in Orlando, Fla., April 30 to May 2. The company will be demonstrating its unique identification technology in Booth #350 at the event.

Colorbit is a color-based automatic identification technology developed by B-Core Inc. of Tokyo. Using the patented code configuration and decoding software, it is possible to read up to several hundred tagged items simultaneously by capturing a single image, with sub-second decoding speeds. The solutions' rapid reading capability is ideal for inventory management, asset management, quality assurance, anti-counterfeiting, and other applications, particularly on difficult-to-label surfaces and in environments where using traditional bar code labels or RFID tags may be challenging.

"Colorbit allows users to read hundreds of codes very quickly," said Colorbit USA Managing Partner, Jim Kast. "Using a webcam or a smart phone, you can take an image of a pallet-load or even a room full of marked items and generate an accurate inventory list in a few seconds. And you can do so without worrying about bar code line spacing, label orientation, or print quality, and without the upfront costs and engineering challenges associated with RFID."

The Colorbit code is comprised of colored cells arranged in a continuous configuration. The contiguous elements are made up of one of three colors (red, green, and blue), and moving from one color to the next generates either a "1" or "0" bit. Using camera-based image processing technology, Colorbit's decoding software interprets the codes by tracing the transition from one color to the next. The shape and configuration of the code is very flexible, and the codes can be successfully read even if the line of elements is curved or otherwise distorted.

"Unlike bar codes, up to several hundred Colorbit codes can be scanned and read simultaneously with a single imager," said Colorbit USA Partner, Chris Anderson. "And unlike RFID, the Colorbit solution can pinpoint the location of a specific item in a group by identifying its presence in the captured image, and also provide read-many capabilities without the risk of RF interference and collisions."

The Colorbit solution has a high tolerance for reading damaged, faded, and poorly printed codes, providing advantages in applications where the labels may be exposed to harsh environmental conditions. The codes can also be painted onto uneven or rough surfaces, and can be read using almost any type of digital camera technology, including Web cameras, digital video cameras, smart phones, and machine vision equipment. The codes can even be generated using tri-color LED lights.

"The Colorbit software is extremely fast," Anderson continued. "It can examine the entire field of view of the image, wipe out the background, isolate the codes and decode them rapidly— in most cases, in less than a hundred milliseconds. The codes are also extremely durable. As long as you can make out the color sequence, you can read these codes."

The company is currently seeking North American distribution and integration partners to help bring the solution to market. For information on partnering opportunities, contact Jim Kast at +1 (303) 905-3703 or Chris Anderson at +1 (303) 437-7938.

About Colorbit USA
Colorbit USA, LLC, is headquartered in Longmont, Colorado, and serves as the North American and European agent of the Colorbit solution for Tokyo-based B-Core Inc. The Colorbit technology is already being used by major companies in Japan, including 3M, Sato, Hitachi, and Toppan. For more information, visit www.colorbit-usa.com, www.colorbit.jp/en.

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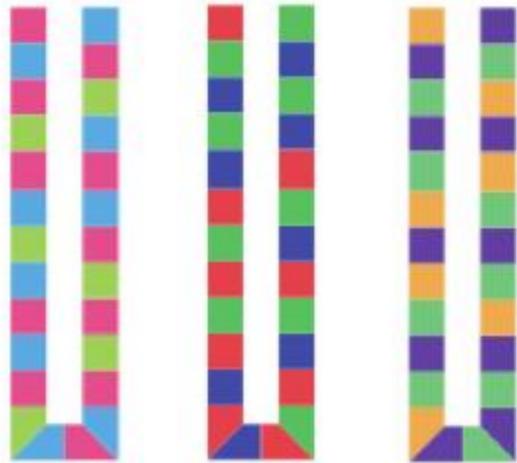
There's a new color bar code in town and it offers new exciting potential uses that conventional bar codes can't match.   Some major companies have already licensed the code.   The technology is known as Colorbit(R), and it is comprised of a string of colored little blobs that can be translated into a binary code/numerical code.

The code was developed in Japan and is relatively new to the United States. It is being represented by Chris Anderson and Jim Kast - more at Colorbit-USA.com

What is unique and different about this code? Well, first of all, a picture can be taken of a *group* (!!) of Colorbit bar codes and the reader will decipher all of them.   Instead of a bar code reader that scans one code at a time, a bicycle rental company in Japan uses the technology to take a picture of an entire racks of bicycles with Colorbit codes on the back of each bike, and the software takes inventory instantly!   Many codes - but just one picture. This happens to be an actual use of the technology in Japan. The technology can resolve hundreds of codes from a single picture.

Another actual use is at a large solar array site in Japan.   The individual panels are all marked with Colorbit codes and are inventoried with an aerial photograph.   The technology is not limited to large codes - according to the vendor - "Colorbit® can be read even if it is microscopic. There are many possibilities for its use: not only for papers (e.g. on the spine of a slim book or file, and on the edge of an envelope), but also for edges of metal plates, glasses and P.C.Boards."

A sample of this technology is displayed in this YouTube video - its just 20 seconds long - so click on it and take a peek.

The code is comprised of colored cells

continuously arranged without being branched or crossed. The decoding method is by camera image processing technology tracing color differences between cells, i.e., tracing only the transition of color of each of neighboring cells, so the shape and the size of the code is flexible. Colorbit® is a unique technology which is useful even for the field where barcode, two dimensional code and RFID tags cannot be used.

Any PC camera supported - according to the company "Any PC connectable camera such as a web camera, a digital camera, a digital video camera, and a machine vision camera (an industrial camera) can be used. The camera should be selected according to conditions of use and required accuracy

levels. For the usual usage an off-the-shelf web camera is more than enough. Printing of Colorbit® can also be done by general-purpose color printers."

It may even displace some RFID uses.

According to Anderson, B.Core, Inc - developed the algorithms , coding scheme and decoder. The need was an unconstrained ability to read codes. "Existing bar code schemes are very fussy about line space, orientation , quiet zone, etc and are also only able to read one bar code at a time. This code does not constrain itself to straight lines or smooth surfaces . It can read a couple hundred of these codes at a time and even tell you where a particular item is. The code can be created in spiral or geometric shapes."

The company reports that 3M has licensed the exclusive right for development of it on retro-reflective material, and Sato, the well known manufacturer of bar code printers, has also licensed it.

Colorbit-USA is looking primarily for systems integrators and VARs and will be attending the RFID Live show in Orlando in two weeks.

Written by Craig Aberle

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