FACT SHEET

LAKE IMAGE

DISCOVERY Multiscan - Label Integrity Manager (LIM)

Automate & Simplify Label Inspection for High Speed, Multi-Lane, Variable Data Label Production

PRODUCT OVERVIEW

For several years, advances in print technology have enabled label printers to produce large volumes of variable data labels at very high speeds. Today, billions of variable data labels are used daily to track or trace goods, optimize production workflow and inventory, provide brand protection, identification and manage security. However, when producing labels at these volumes and speeds, a printing or integrity error can easily go undetected, exposing the label converter to costly product returns, increased waste, financial penalties and the possible loss of future business. For the end client the cost of a missing or untraceable label can cause serious operational and tracking issues, resulting in misplaced items, delays, stoppages, and the subsequent loss in productivity which increases costs and lowers profit margins.

Digital label presses now print variable data labels in multiple lanes across the web, running at well over 100 metres/min. (300 ft./min.). At these speeds, visual inspection by the operator, even with the aid of a strobed video web viewing system, is totally inadequate for detecting print or data integrity errors on labels with variable printed text and barcode information.

DISCOVERY MULTISCAN

DISCOVERY MULTISCAN's Label Roll Mapping (LRM) and Label Integrity Manager (LIM) are two high performance, inline label inspection tools within DISCOVERY MULTISCAN's armoury. These two inspection tools automatically records and reports on the print quality status and location of every label, immediately after printing, to allow the converter to produce error-free, variable data label reels to the clients' required quality standards and specification.

DISCOVERY MULTISCAN Label Roll Mapping (LRM)

The preferred option for most label converters is to only stop a running label printing press when either a major or reoccurring print/data error is detected, to prevent further loss in production and waste. A label inspection station, consisting of an unwinder, an inspection table and a rewinder, is normally deployed to replace or remove defective labels on a reel.

The DISCOVERY MULTISCAN deploys numerous inspection and integrity tools to detect quality defects (i.e. mis-registration, die-cut variations, smudges, streaks, creases, wrinkles and colour variation), verifies the variable printed text and barcodes and checks for missing or out of sequence labels within a lane of labels. When an error is detected, DISCOVERY MULTISCAN Label Roll Mapping tool logs the nature of the error, its location (distance from a start marker) and the option to link to an image of the defective label in a Roll Mapping file.

DISCOVERY MULTISCAN can be configured to stop the label press if errors exceed pre-set parameters. After printing, the label reel is mounted on the Label Inspection Station and the Roll Mapping file is used to precisely stop and display each defective label at the inspection table for the operator. By comparing the information logged in the Mapping File to the actual label, the operator can take the appropriate action to either remove, replace or reset the error flag if the label is good.

DISCOVERY MULTISCAN Label Integrity Manager (LIM)

Labels printed in multiple lanes across the web, are typically slit and rewound onto single lane reels which may be distributed to multiple clients. Again, if these reels contain labels with variable text and barcodes, then each reel needs to be verified on the inspection station before they are distributed. To do this, each reel requires a correct corresponding Roll Mapping file so that they can be inspected reliably and efficiently, especially if the reels contain sequential information (e.g. 1-2,000 on Reel 1, 2,001-4,000 on reel 2 etc.). Ensuring that each batch of reels are complete, without any missing or out of sequence labels, becomes a laborious and error-prone task.
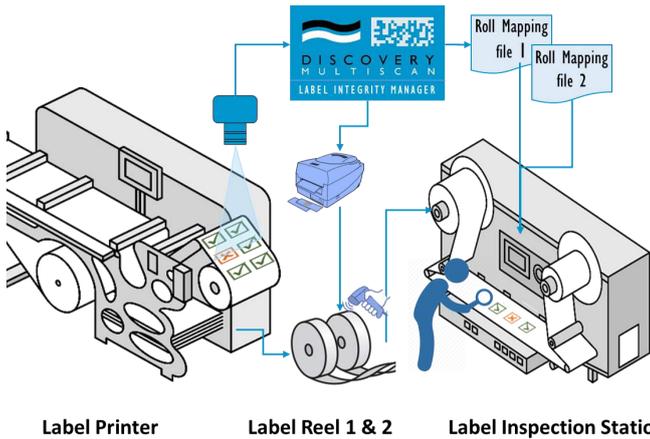
DISCOVERY MULTISCAN Label Integrity Manager (LIM) tracks and collates information on each label in all lanes independently, for print defects (mis-registration, die-cut variations, wrinkles, colour variation etc.) and logs the status on the readability, accuracy and the correct sequence of variable data printed on each label. Using the header information printed at the start of each label lane, LIM knows precisely the number of labels to expect in each lane as well as the start, end and the increment of the printed variable information (in instances where the label sequence is across the web) to determine that the correct sequence is being maintained. For random or non-uniform increments, the variable information captured can be matched against a look-up file or database to detect missing or out of sequence labels.

As with LRM, LIM maintains a detailed Roll Mapping file for each lane during the label printing run. After reading pre-determined trailer information, printed at the end of each lane, LIM reports on any sequence breakages, unreadable or missing labels. After each lane on the web has been slit and rewound onto multiple reels, LIM drives a Zebra printer to produce a "closure" label, incorporating an identifying barcode, for each reel. LIM also provides this support for turret rewinders.

At the inspection station, by scanning the closure barcode on each reel, the correct Roll Mapping file is automatically selected for subsequent inspection. This greatly simplifies and speeds up the inspection process, removes operator error and provides the Label Printer and the client with a quality audit file for each label reel.

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Label Printer   Label Reel 1 & 2   Label Inspection Station

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FEATURES

Defect Inspection
- Streaks, creases, hickies, smears, ink spots & voids
- Die-cut and positional (measurement) variations
- Print mis-registration & Colour Variation Measurement (ΔE)

Label Integrity Management
- Sequence Checking within and across multiple lanes
- Label to Lane to Reel tracking for missing label checking
- Full file/database look-up matching for random data

Variable Barcodes and OCR Verification
- Full alphanumeric text - trainable by system operator
- Verify 1D or 2D barcodes
- ISO/ANSI Barcode Grading

Easily Set-up
- An intelligent, fast master image auto training
- Smart scan set-up for multi-lane labels
- Closure label printing for each reel

Control
- Operator Light & Audible Alarms/Warnings
- Printer Stop (optional and configurable)
- Marking & flagging device - Optional

Defect History / Reporting
- Detailed defect reporting by each Label, Lane and Reel
- Review Mode - enables operator to review history of defects
- Make-Up Mode - Full label repair feature
- Roll Map for each lane/reel
- Image Archive - Optional

WEB APPLICATIONS
- Pharmaceutical Labels: serialised, expiry dates, lot/batch no.
- Security Printing: authentication, identity, tax stamps labels
- Retail: Anti-counterfeit; Inventory, shipping labels. RFID Tags

SYSTEMS

Input Devices
- Any mono or colour line scan camera up to 16K including Discovery Maxscan
- Resolution: 150 to 1600 DPI
- Triggering: High resolution encoders
- Lighting: Long life L.E.D. Optional back-light

Processor / Interface
- OS: Windows™ 7 and Windows™ 10 (64bit)
- Chassis: Industrial Rack
- Power: 110-230VAC
- Approvals: CE Certified
- Interface: Touch Screen Monitor, keyboard & mouse
- Zebra printer and handheld barcode scanner

Performance
- Press Speeds: up to 350 meters/min (1150 ft./min)
- Web widths: Suitable for most label printer web widths

Installation / Integration
- On Label Press Installation incl. mounting kits
- Rewinders: Web stability frame, web guide and path rollers available if necessary
- Integration with Inspection Station
- Remote technical support and training

ADVANTAGES
- **Machine independent -** Can be retro-fitted to most existing label presses and printers
- **Reliable -** Using a wide range of camera technologies, with varying resolutions to inspect all type of variable data labels at high speeds
- **Flexible -** Ability to inspect multiple label lanes independently to meet quality specification and ensure full data integrity across lanes and reels
- **Scalable -** Easily deploy new camera technology & additional DISCOVERY tools to meet changing inspection requirements
- **Supported -** Comprehensive maintenance contracts available featuring remote support and diagnostics

BENEFITS
- **Improve Label Quality** Detect defective labels prior to shipping
- **Lower Production Costs** - Prevent costly reprints, rejects and returns
- **Improved Productivity** - Automate and simplify label inspection processes saves on labour and time
- **Compliance** - Ensure all label production complies to client needs and government regulations
- **Increased Customer Satisfaction**—100% label inspection & auditability meets requirements of demanding customers
- **Increased Revenues**: Attract more clients with assurances that your printed labels perform in the field as promised