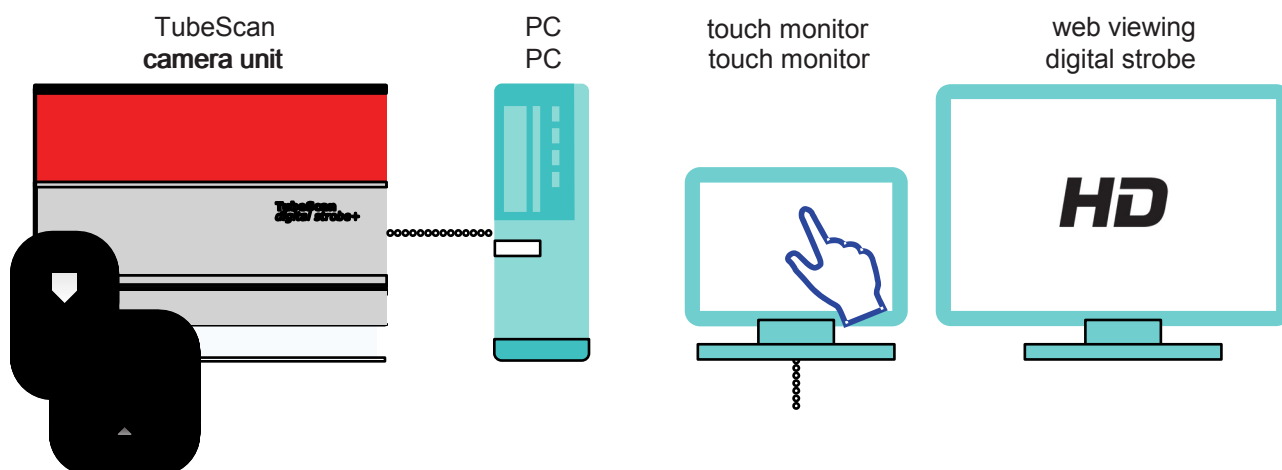


# TubeScan *digital strobe*



## World's first digital strobe for smart print inspection

## System overview



## The intelligent solution for print inspection

Quality control during printing or finishing has to be simple and must be very reliable. At the end, your reputation depends on the work you deliver to your customers.

Conventional methods such as counting of repeats, detection of missing labels with photoelectric sensors or the visualization of moving webs with strobe lights often reach limitations and are complicated to use. On the other hand, automatic print inspection systems based on line scan cameras might be oversized and too expensive for many applications.

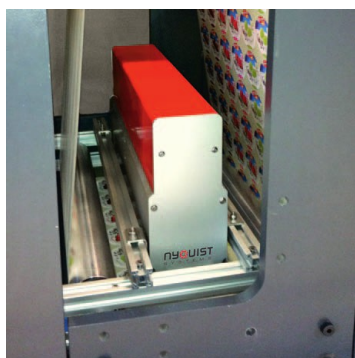
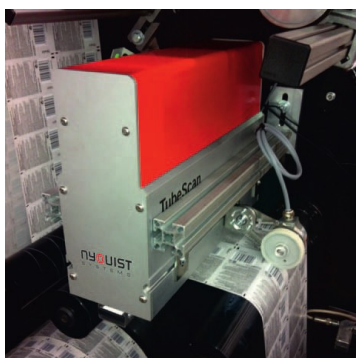
Hence, the concept of TubeScan sets a new standard with the smart combination of imaging technology and the stroboscopic principle.

TubeScan provides considerably higher process reliability with the base function *digital strobe* because it always

delivers a steady image and true colour representation – independent from the machine speed. Thus, the operator keeps full control over the entire production, even during critical phases like make-ready time or start/stop.

The function *digital strobe++* is not only accurately counting repeats, labels and missing labels in total and per lane, but it also detects matrix residues across the entire web width. This eliminates the usage of expensive and unreliable sensors and the necessity of cumbersome and time-consuming sensor adjustment.

By choosing the additional option *digital strobe++* TubeScan even becomes a full grown print inspection system, which is able to detect print defects and register variations below one millimeter. So you live up to your reputation in an economic way by delivering quality up to your customer's expectation!



## TubeScan *digital strobe*

### Base device digital stroboscope

#### Your benefits

- ⇨ Camera with up to 30 images per second shows every repeat in real-time
- ⇨ Clear image representation even with reflective materials
- ⇨ Automatically synchronized images over the entire speed range of up to 250 m/min
- ⇨ No health risks and less tiring compared to the use of commercially available strobe lights
- ⇨ Optional UV-illumination for monitoring security features (wave length 365 nanometers)
- ⇨ Time saving and simple setup
- ⇨ Very reliable and stable operation
- ⇨ Intuitive operation via touch monitor
- ⇨ Cost-efficient

#### Simple job setup

- 1 Input the repeat length
- 2 Start image acquisition



## TubeScan *digital strobe+*

### Counting and completeness

#### Your benefits – in addition to base functions

- ⇨ No time-consuming sensor adjustment
- ⇨ Detection of missing labels, coarse print defects and matrix residues (defect size Ø approx. 5 mm)
- ⇨ Accurate counting of repeats, labels and missing labels for up to 20 lanes
- ⇨ Generation of a 24 Volts defect signal to trigger alarm device or marking system
- ⇨ Optional placement control module with defect queue for automatic control of a rewinder

## TubeScan *digital strobe++*

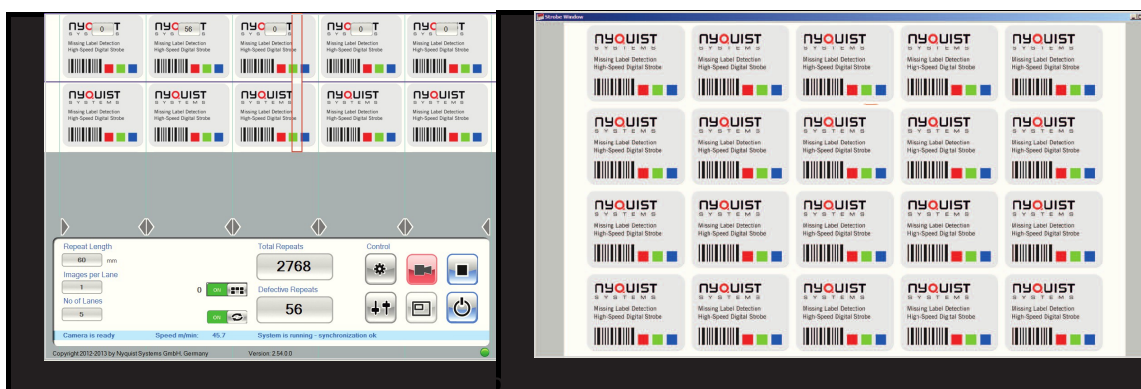
### Print inspection

#### Your benefits – in addition to *digital strobe+*

- ⇨ Detection of fine print defects, register defects and color variations (defect size Ø approx. 1 mm)
- ⇨ Real-time display of the detected defects on HD monitor
- ⇨ Masking tool to define areas to be ignored
- ⇨ Job saving function for repeat orders

#### Simple job setup

- 1 Input the repeat length
- 2 Start image acquisition
- 3 Adjust left and right lane boundary
- 4 Input the number of lanes
- 5 Press start



**You Tube**  
nyquist + tubescan



## Model overview

	<b>TubeScan</b> <i>digital strobe</i>	<b>TubeScan</b> <i>digital strobe+</i>	<b>TubeScan</b> <i>digital strobe++</i>
web width	330 mm / 430 mm / 660 mm / 850 mm (13" / 17" / 26" / 34")		
print inspection	–	counting + completeness	fine
digital strobe for web viewing	yes		
reflective material	yes		
touch monitor	yes		
HD monitor	yes		
dimensions	(W x D x H) 410 / 510 / 760 / 960 mm x 125 x 305 mm (16.1 / 20.1 / 30 / 37.8" x 4.9" x 12.0")		
operating temperature	0° – + 35° C (+ 32° – + 95° F)		
supply voltage	100 V - 240 V, 50 - 60 Hz		
I <sub>max</sub> digital outputs	150 mA		
encoder with layon wheel	RS422 channel A+B		
binary inputs / outputs 24 V	3 / 4		



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