

Robots · Vision  
Traceability

"Your Technical Solutions Provider"  
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Matrix Monitor is a software tool designed to reside at every mark station to monitor and provide feedback as to mark quality, part surface fluctuation and overall system condition. This information is used for initial development of the mark, continuous monitoring of mark quality and logging/trending all data. When an alarm occurs, Matrix Monitor describes in simple "English" what failed, what is the likely cause and how to fix it.

**Matrix Monitor 1500**

**Poor Quality**  
Data: LB012345 070809 070811  
Failure: Contrast  
Problem: Contrast is too low  
Cause: Laser power is to low. Increase 5%

**Statistics**

For Today		For the Last 10 Parts	
Good Quality Rate: 0 %	Poor Quality Rate: 50 %	Good Quality Rate: 0 %	Poor Quality Rate: 50 %
Bad Quality Rate: 10 %	Read Rate: 100 %	Bad Quality Rate: 10 %	Read Rate: 100 %
Read Attempts: 10		Read Attempts: 10	

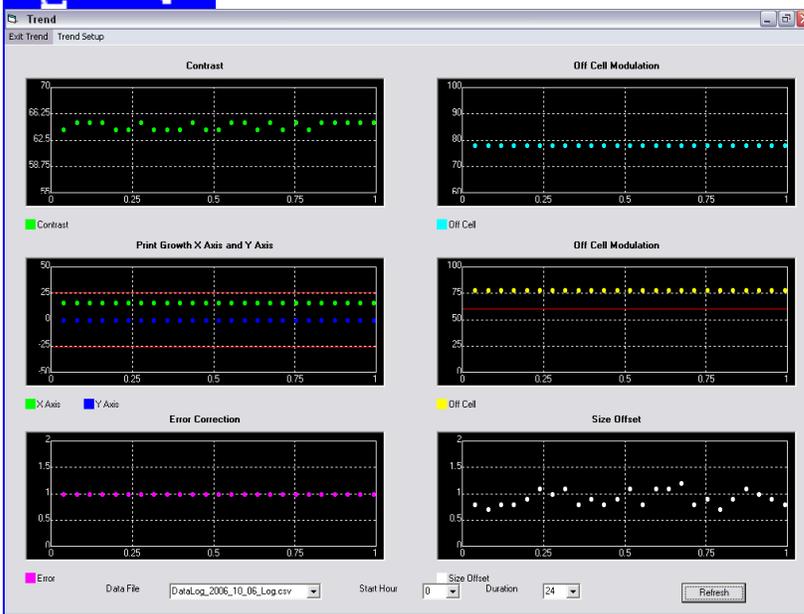
**Results**

Characteristic	Value	Result
Cell Size	8.9	Good
Center Offset	2	Good
Size Offset	6.4	Good
On Cell Modulation	76	Poor
Off Cell Modulation	72	Poor
Border Match	88	Good
Contrast	17	Poor
Axial Nonuniformity	0.02	Good
Print Growth X	-2	Good
Print Growth Y	-3	Good
Error Correction	0.86	Good
Distortion Angle	-1	Good

**Limits**

Characteristic	Poor	Fail	Type	Priority
Cell Size	5	3	Low	12
Center Offset	12	22	High	11
Size Offset	17	8	High	10
On Cell Modulation	80	80	Low	9
Off Cell Modulation	80	80	Low	8
Border Match	80	70	Low	7
Contrast	25	12	Low	1
Axial Nonuniformity	0.08	0.1	High	5
Positive Print Growth	21	26	Low	1
Negative Print Growth	23	26	High	1
Error Correction	0.5	0.37	Low	2
Distortion Angle	20	30	High	1

Camera Connected



- Features**
- User Definable Limits
  - Historical Trending
  - Data Logging
  - Alarming: Realtime/Historical
  - Operator Log
  - Data Search Tool
  - Daily & Hourly Statistics

When an unreadable mark means scrapping the part, proper verification translates into higher production rates, lower scrap and a better bottom line. HTE's solutions result in better running systems that will save money. Without a completely integrated solution of marking, verifying and reading, you're just spending money. It's time you start getting something in return.

has been helping end-users, OEM's and line builders meet the 99.9x reading results required by users. The ramifications of a "no read", in systems that rely on a mark, are serious. HTE, Inc. is helping Mercedes, GM, Cummins and many other large users attain 99.9x read rates as well as help them how to maintain them. HTE, Inc. has experience and relationships with all styles of equipment from all the major vendors as well as the control knowledge to help improve the mark, reduce scrap and stop finger-pointing.