

QuickTest™ Model II Features

Fast: The QuickTest™ system performs rapid one-touch QC tests on small format display modules.

Easy to use: QuickTest™ verifies critical optical performance parameters of the display in an easy to use automated fashion. The graphical user interface allows the operator to select a pre-defined test configuration, start, and stop the test.

Flexible: The test engineer is able to edit the test configuration through a password protected interface. The test engineer can skip selected test steps, set pass/fail limits, create new test steps, and change test parameters. He can also create new test reports in MS Excel format.

Automated operation: The operator places a pre-loaded tray, containing the display, on QuickTest's sliding drawer. The drawer closes and places the display in a controlled lighting environment. The system energizes the display and performs the selected series of tests. The results are compared to stored test limits and the system indicates the pass/fail status of the display. The measurement results are then logged to a database. The drawer opens, the operator rapidly swaps trays, and the test process repeats.

Accurate: QuickTest™ employs three sensors, each optimized for specific measurement tasks. A high sensitivity spectrometer with a cooled back-thinned CCD provides the highest measurement accuracy throughout the color gamut for luminance, contrast and color measurements. A CCD camera provides rapid uniformity measurements. Westar's proven Temporal Response Detector (TRD-100A) uses a PMT to provide accurate flicker and response time measurement.

Key Measurements

- **Brightness**
- **Contrast**
- **Color**
- **Uniformity**
- **Cross-talk**
- **Color Gamut**
- **Flicker**
- **Response time**
- **Gamma**
- **Voltage and Current (optional)**
- **Reflective/ Transflective (optional)**



QuickTest™ Model II Includes:

- **System PC with QuickTest™ Software**
- **LCD monitor**
- **Light-safe test enclosure**
- **Semi-automated material handling system**
- **Integrated sensor suite**
 - ✓ **Spectrometer**
 - ✓ **CCD camera**
 - ✓ **PMT flicker and response time detector**
- **Active temperature control**
- **Westar T-Drive™ SD-100 universal small format display drive system**
- **Test trays (optional)**

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e-mail us at sales@westar.com

QuickTest™ Model II Specification Summary:

Instrument Specifications	
Spectrometer	
Luminance Accuracy	+/-3%, illuminant A
Luminance repeatability	+/-0.5% (>1cd/m ²)
Color accuracy	+/-0.003 (u',v') illuminant A
Color repeatability	+/- 0.001 (u',v') (>1 cd/m ²)
Spot size	3.5mm dia (others available)
Spectral range	380 to 780nm
Spectral resolution	<4nm FWHM
CCD Camera	
Resolution	640x480, 12-bit
Uniformity repeatability	+/-2%
PMT Response Time Detector	
Detector response time	<50us
Response time repeatability	+/-2%
Flicker accuracy	+/-1Hz
Flicker amplitude	+/-5%

Environment / Physical	
Power	115/220 VAC, 50-60Hz
Air	8CFM @ 90psi
Operating temperature	20 to 30 C
Dimensions	23"(d)x19"(w)x28"(h)
Weight	approx. 30kg

Material Handling	
Type	pneumatic sliding drawer
Display fixture	replaceable tray
System to tray interconnect	pneumatic pogo pins
Max signals (std. config)	66
Max display size	5"x5"
Load/unload time	<2sec

Control PC	
Operating system	Windows XP Professional
Processor / memory	check with Westar for latest
Monitor	1280x1024, LCD

Quick Test™ Software	
Test execution control	start, pause, abort
Test status	pass / fail
Test parameter file	test settings, pass/fail limits, display drive settings
Test Report	user configurable in Excel format
Test history log	test time, parameter, measured value
Test statistics	CPk, min, max, avg, std dev.
Access levels	operator / test engineer
Database interface	ODBC compliant

QuickTest™ Model II Easy To Use Software Interface:

The screenshot displays the QuickTest software interface with several key components:

- Operator and Model File:** OPERATOR: WILSON; MODEL FILE: C:\Documents and Settings\wilson\Desktop\QCT Files\176uz20.qpt
- Temperature:** TEMP: 29.6°C
- Test Sequence Table:**

Ln	Status	Test	Result	LL	UL	Count	Min	Avg	Max	StdDev	%StdDev	Cpk	Definition
1	PASSED	Check Height	29.9 mm	29.5	30.5	30	29.7	29.8	29.9	0.07	0.25%	1.43	RSLT = [Camera.ActiveArea
2	PASSED	Check Width	37.4 mm	37.0	38.0	30	37.2	37.3	37.3	0.07	0.20%	1.36	RSLT = [Camera.ActiveArea
3	PASSED	Contrast Reject	263.5	2	30	256	260	265	2.32	0.89%	37.0	RSLT = [Spectrometer.W/ht...	
4	PASSED	Contrast	263.5	250	270	30	256	260	265	2.32	0.89%	1.38	RSLT = [Spectrometer.W/ht...
5	PASSED	Brightness	401.3 cd/m²	380	420	30	401	401	403	0.43	0.12%	12.4	RSLT = [Spectrometer.W/ht...
6	PASSED	White u'	0.1992	30	0.19	0.19	0.19	0.19	0.19	8.88	0.04%		RSLT = [Spectrometer.W/ht...
7	PASSED	White v'	0.4779	30	0.47	0.47	0.47	0.47	0.47	9.72	0.02%		RSLT = [Spectrometer.W/ht...
8	PASSED	Red u'	0.3892	30	0.38	0.38	0.38	0.38	0.38	6.58	0.02%		RSLT = [Spectrometer.Red...
9	PASSED	Red v'	0.5232	30	0.52	0.52	0.52	0.52	0.52	3.19	0.01%		RSLT = [Spectrometer.Red...
10	PASSED	Green u'	0.1398	30	0.13	0.13	0.13	0.13	0.13	2.84	0.02%		RSLT = [Spectrometer.Gree...
11	PASSED	Green v'	0.5574	30	0.55	0.55	0.55	0.55	0.55	4.59	0.01%		RSLT = [Spectrometer.Gree...
12	PASSED	Blue u'	0.1329	30	0.13	0.13	0.13	0.13	0.13	5.69	0.04%		RSLT = [Spectrometer.Blue...
13	PASSED	Blue v'	0.2821	30	0.28	0.28	0.28	0.28	0.28	8.81	0.03%		RSLT = [Spectrometer.Blue...
14	PASSED	Gray u'	0.1900	30	0.19	0.19	0.19	0.19	0.19	5.91	0.03%		RSLT = [Spectrometer.Gray...
15	PASSED	Gray v'	0.4562	30	0.45	0.45	0.45	0.45	0.45	9.31	0.02%		RSLT = [Spectrometer.Gray...
16	PASSED	Horz Crosstalk	1.53%	6.0	30	1.39	1.54	1.65	0.06	4.24%	22.5		RSLT = abs[Spectrometer...
17	PASSED	Vert Crosstalk	1.89%	6.0	30	1.65	1.79	1.88	0.06	3.47%	22.5		RSLT = abs[Spectrometer...
18	PASSED	RiseTime	19 ms	30	18.6	19.3	19.8	0.24	1.26%				RSLT = [TRD RespTime Pe...
19	PASSED	FallTime	11 ms	30	10.6	11.0	11.2	0.14	1.28%				RSLT = [TRD RespTime Pe...
20	PASSED	Flicker	-28.4 dB	-25.0	30	-29.0	-28	-28	0.21	-0.75%	5.70		RSLT = [TRD Flicker...
21	PASSED	Uniformly	1.26	1.4	30	1.24	1.25	1.26	0.00	0.28%	13.3		RSLT = [Camera.Uniformly...
- Test Status:** A large green box displays "PASSED".
- CIE Chromaticity Diagram:** A color wheel diagram showing the test results for color accuracy.
- CCD Camera Image Window:** A window showing the camera's view of the display under test.
- Strip Charts and Histograms:** Multiple graphs showing test results over time, including Brightness Stripchart, Contrast Stripchart, Brightness Histogram, and Contrast Histogram.
- Test history log:** A scrollable log at the bottom showing the results of individual test steps.