

3D OPTICAL PROFILER MODEL 7503

Chroma 7503 uses the technology of white light interference to measure and analyze the surface profile of micro-nano structures with sophisticated scanning system and innovative algorithms. It can work with monochrome camera as required for microscope measurements.

The latest modular design of Chroma 7503 has flexible configurations that can comply with diversified test applications. When equipped with electric nose gear, maximum 5 types of lens can be mounted and switched directly for use without changing manually. In addition, the equipped electrical adjustment mobile platform is able to adjust and position the sample automatically. The large scanning range of vertical and horizontal axis is applicable for various auto measurements. Nondestructive and rapid surface texture measurement as well as analysis can be done on the sample without any preprocessing that is most suitable for R&D, production, process improvement and academic research.

Chroma 7503 can achieve 60mm when Z vertical axis is used to measure the scanning stroke. Also the horizontal axis is able to reach sub-micro resolution when a PC is used to control the mobile platform as demand. The fast calibration procedure and algorithm theory enables the system calibration result to be traced to NIST standard. Combined with several innovative, robust and reliable algorithms, Chroma 7503 has the quality of high precision and large scale measurement.

The commercial white light interference analyzers frequently use the centroid algorithm to calculate the surface height. Since the light diffraction causes incorrect height calculation of some positions and

results wrong profiling data, Chroma 7503 applies the most advanced 3D Profiler Master software along with the interference signal process algorithm of Chroma to analyze the spectrum of white light interference and prevent the boundary error problem.

The system has dark point process function to filter out and correct the data that is incapable of creating, interference to reduce the error in measurement. Since the dark point process runs while the data is retrieving, the dark point filter function can be executed effectively; meanwhile the correction is made by referencing the surrounding data that makes the measurement more robust and reliable.

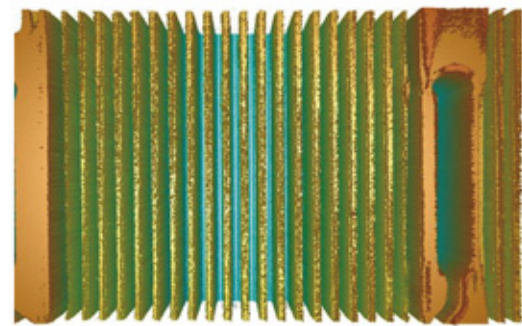
Master software analyzes and corrects the data of surface texture, also provides complete profiles in icon. It has more than 150 lines or surfaces profiling parameters including roughness, ripple, flatness, apex and valley. The high pass filter, low pass filter, fast Fourier transformation and cusp removal space filter tools allow the user to filter out the high/low/ bandpass signals. The software has polynomial fitting, region growth, the entire surface and multiple area leveling tools that can be used for data processing and analysis flexibly.

Chroma 7503 has 3D measurements with fast switch of ratio and large area map interlinking function that can cope with various applications' needs. Furthermore, the flexible modular design allows customization for practical use to gain the balance between price and performance. Chroma 7503 is the best choice for improving efficiency and saving cost.

MODEL 7503

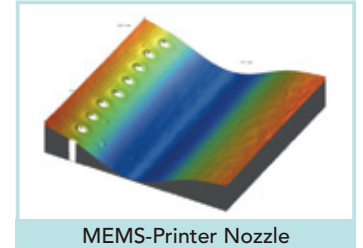
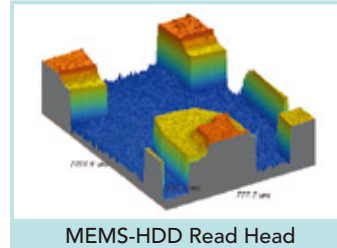
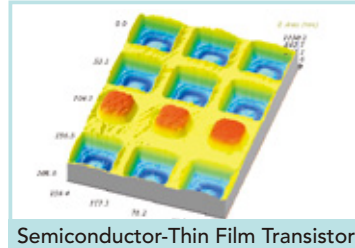
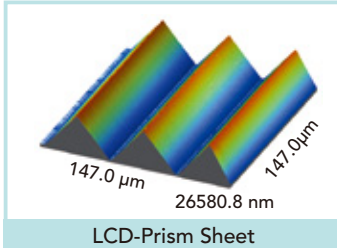
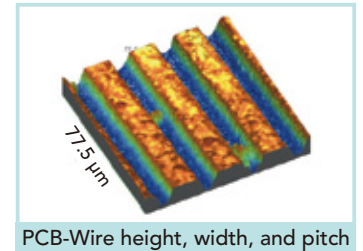
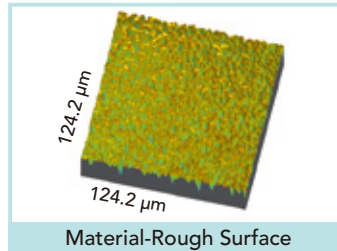
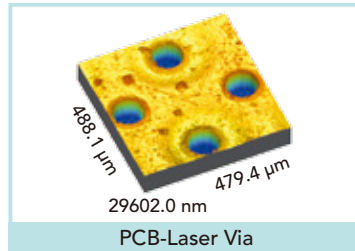
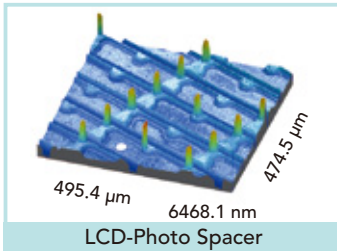
KEY FEATURES

- Use white light interference measurement technique to do nondestructive and rapid surface texture measurement and analysis
- Modularized design to select parts based on test demands or budget concerns
Equipped with LED light source for long time using
- Provide various surface measurement parameters, such as sectional difference, included angle, area, dimension, roughness, waviness, film thickness and flatness
- Equipped with dark point and boundary error correction algorithms
- Friendly user interface with simple graphical control system and 3D graphics display
- Exchangeable file format to save and read various 3D profile file formats
- Provide Chinese/English user interface for switch
- Provide measurement script for auto test



Chroma

APPLICATIONS



SPECIFICATIONS

Model	7503	
Measurement	Noncontact 3D measurements	
Imaging System (CCD Camera)	1000 x 1000 pixels (Mono)	
Interference Objective Lens	2.5X, 5X, 10X, 20X, 50X, 100X	
Nosepiece	None; Manual rotary (5holes); Motorized rotary (5holes)	
Supported Tube Lens Ratio	0.5X, 1X	
Light Source	White light LED	
Measurement Mode	VSI ^{*1} ; PSI ^{*2}	
XY Mobile Platform	Auto	300mm x 300mm ; 100mm x 100mm
	Manual	70mm x 70mm
Z axis Platform	60 mm (Auto)	
Level Adjustment Platform	X \pm 8° ; Y \pm 6°	
Vertical Direction	Accuracy	\leq 9nm @ 8.0 μm Standard Step Height ^{*3}
	Repeatability	\leq 0.05nm @ 1 σ 44 nm Standard Step Height ^{*3}
	Scan Speed	48 $\mu\text{m}/\text{sec}$ ^{*4}
Operating System	Microsoft Windows® 64bits Chinese & English	
IPC	High-performance PC	
Monitor	24 inch LCD	
Operating Environment	Noise: \leq 60 dB ; Environment Vibration: VC-C or above	
Input Voltage Range	90~120 VAC, 220~240 VAC	
Operating Temperature/Humidity	15~35°C (47°F to 67°F) ; less than 75% relative humidity (non condensing)	
Vibration	Tabletop Vibration Isolation Platform	
Dimension (H x W x D)	782mm x 316mm x 555mm	
Weight	Approx. 50KG ^{*5}	

Note*1: VSI: Vertical Scanning Interferometry

Note*2: PSI: Phase Shift Interferometry

Note*3: Based on Chroma Testing Conditions

Note*4: Based on Chroma Testing Conditions @800x600 pixels

Note*5: Will be different according to optional items

*All specifications are subject to change without notice.

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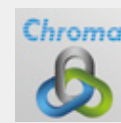
ORDERING INFORMATION

7503 : 3D Optical Profiler

Interference Objective Lens : 2.5X, 5X, 10X, 20X, 50X, 100X

Nosepiece : None ; Manual rotary (5 holes) ; Electric rotary (5 holes)

XY Platform : Auto 300mm x 300mm ; Auto 100mm x 100mm ; Manual 70mm x 70mm



Search Keyword

7503

HEADQUARTERS
CHROMA ATE INC.
66 Huaya 1st Road,
Guishan, Taoyuan
33383, Taiwan
T +886-3-327-9999
F +886-3-327-8898
www.chromaate.com
info@chromaate.com

U.S.A.
CHROMA ATE, INC.
(U.S.A.)
7 Chrysler, Irvine,
CA 92618
T +1-949-421-0355
F +1-949-421-0353
Toll Free +1-800-478-2026
www.chroma.us.com
info@chromaus.com

EUROPE
CHROMA ATE EUROPE B.V.
Morsestraat 32,
6716 AH Ede,
The Netherlands
T +31-318-648282
F +31-318-648288
www.chroma.eu.com
sales@chromaeu.com

CHROMA GERMANY GMBH
Südtiroler Str. 9, 86165,
Augsburg, Germany
T +49-821-790967-0
F +49-821-790967-600
www.chroma.eu.com
sales@chromaeu.com

JAPAN
CHROMA JAPAN
CORP.
888 Nippa-cho,
Kouhoku-ku,
Yokohama-shi,
Kanagawa,
T +81-45-542-1118
F +81-45-542-1080
www.chroma.co.jp
info@chroma.co.jp

KOREA
CHROMA ATE
KOREA BRANCH
3F Richtogether
Center, 14,
Pangyoeyeok-ro 192,
Bundang-gu,
Seongnam-si,
Gyeonggi-do
13524, Korea
T +82-31-781-1025
F +82-31-8017-6614
www.chromaate.co.kr
info@chromaate.com

CHINA
CHROMA ELECTRONICS
(SHENZHEN) CO., LTD.
8F, No.4, Nanyou Tian
An Industrial Estate,
Shenzhen, China
T +86-755-2664-4598
F +86-755-2641-9620
www.chroma.com.cn
info@chromaate.com

SOUTHEAST ASIA
QUANTEL PTE LTD.
(A company of Chroma Group)
46 Lorong 17 Geylang # 05-02
Enterprise Industrial Building,
Singapore 388568
T +65-6745-3200
F +65-6745-9764
www.quantel-global.com
sales@quantel-global.com