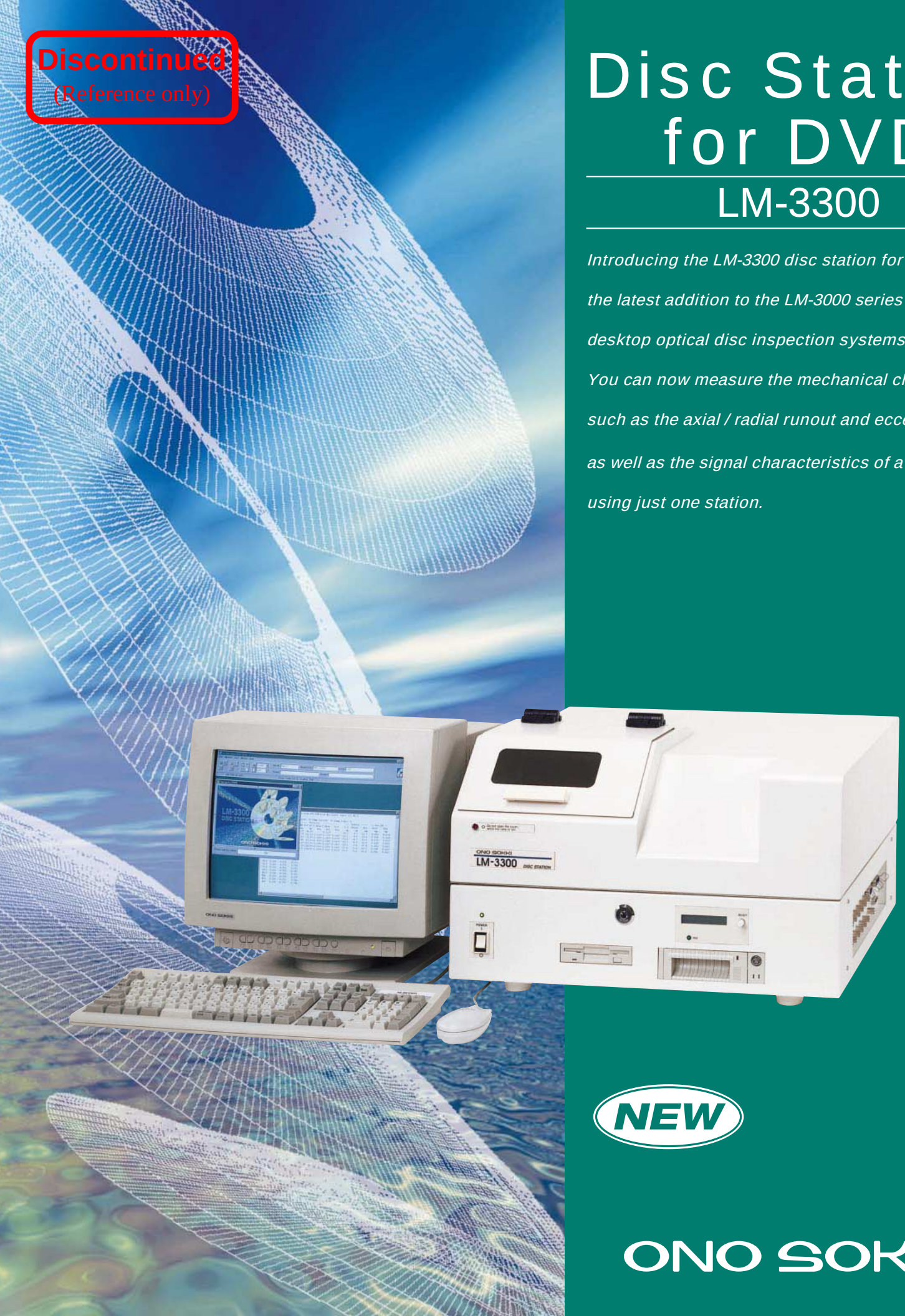
Discontinued
(Reference only)

Disc Station for DVD

LM-3300

Introducing the LM-3300 disc station for DVD-ROMs, the latest addition to the LM-3000 series of desktop optical disc inspection systems. You can now measure the mechanical characteristics, such as the axial / radial runout and eccentricity, as well as the signal characteristics of a DVD-ROM, using just one station.



NEW

ONO SOKKI

High-accuracy measurement of the mechanical and signal characteristics of a DVD using the down-sized system

Announcing the addition of the new LM-3300 disc station for DVDs to the LM-3000 series - the system capable of measuring both mechanical and signal characteristics at production and inspection lines.

The LM-3300 is a compact desktop station that can measure both the mechanical and signal (optional) characteristics of a DVD with high accuracy.

With the LM-3300, Ono Sokki has further strengthened their lineup of LM series stations, which have come to be regarded by industry as the de facto standard systems for measuring mechanical characteristics.

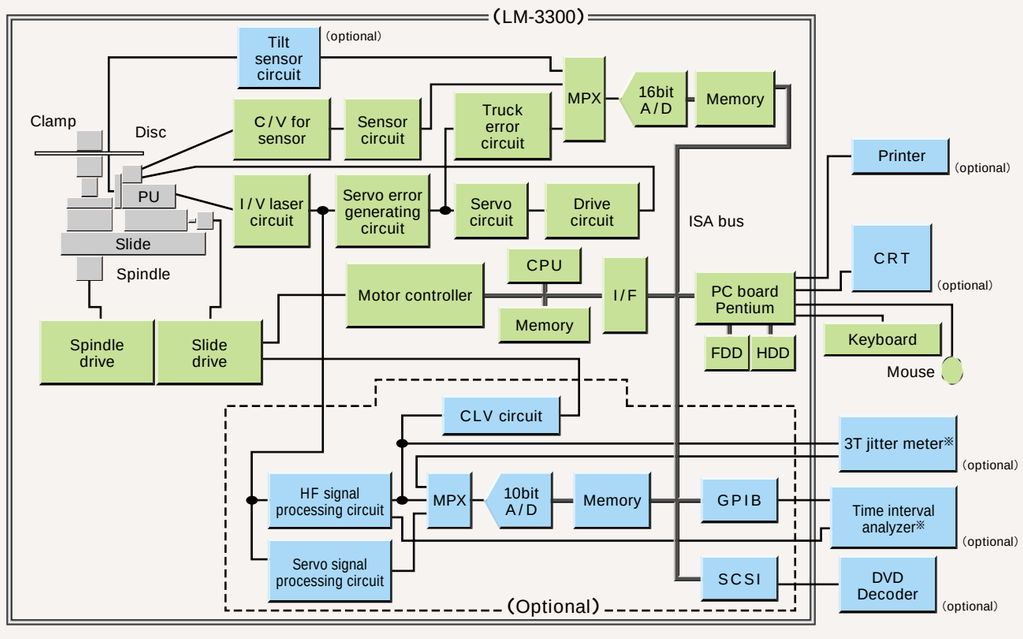
Features

1. The compact LM-3300 disc station has all of the functions required at production and inspection sites. The station's space-efficient design makes it suitable for desktop operation.
2. Compliant with DVD-Book, the station can measure not only the mechanical characteristics but also the optional parameters—signal characteristics, two-dimensional optical tilt and reflectivity.
3. As the optical pickup, the station uses the industry-proven model with a built-in lens displacement sensor. This achieves high-accuracy measurement of mechanical characteristics.
4. The station runs under Windows-based software and is therefore easy to use.Note 1
5. With the use of extension slots, the station can be greatly expanded to include, for example, connection to a LAN.Note 2
6. Upon request, the station can be made compliant with the CE mark certification.Note 3

Note 1 : Cannot be run at the same time as other software applications. The software applications that can be used with the system are limited. Contact ONO SOKKI for more information.
Note 2 : Contact ONO SOKKI for more information on extension boards that can be used with the system.
Note 3 : Contact ONO SOKKI for CE mark certification of peripheral equipment.

Block Diagram Illustrating the Measurement Principle

The displacement sensor built in the actuator detects the motion of the object lens, both in the axial and radial directions. This process, referred to as the optical stylus method, enables the system to achieve the characteristics of precision mechanics. The station also offers options for the measurement of signal characteristics, jitter and error rates. There are two options for measuring jitter measurement : a jitter meter which measures 3T jitter or a time interval analyzer (TIA) for data-to-clock jitter measurement.



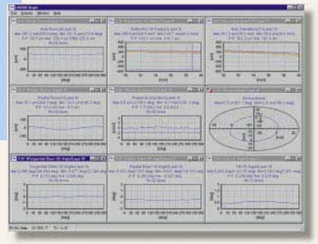
※For jitter measurement, choose either a 3T jitter meter or a time interval analyzer.

Disc Station for DVD

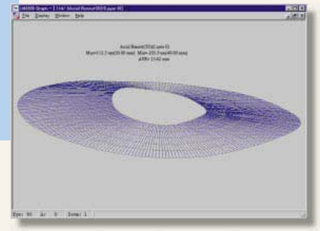
LM-3300

Display of Measured Data

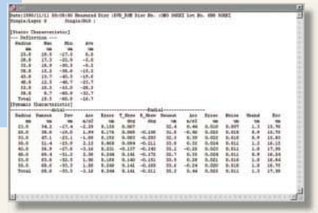
1 Nine-window Screen



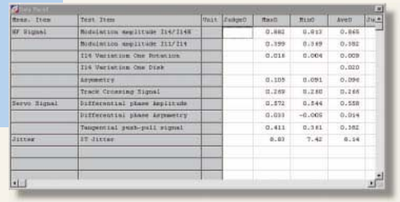
2 Three-dimensional View of Axial Runout



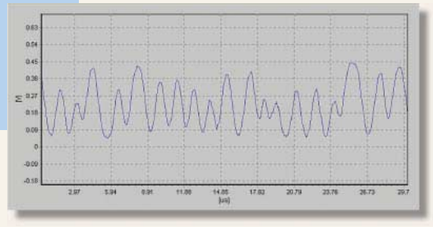
3 View-mode Window



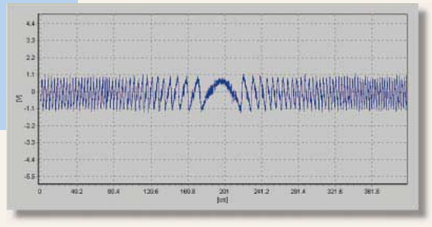
4 Window with Gridlines



5 HF Signal



6 Phase difference tracking error signal



Peripheral equipment for jitter and error rate characteristics measurements (optional)

TA-320

Time interval analyzer (Yokogawa Electric Corp.)

DB-3100D

Jitter meter (KENWOOD TMI Corp.)

DR-3340

Decoder (KENWOOD TMI Corp.)

∗The TA-320 time interval analyzer measures data-to-clock jitter which is compliant with DVD-Book.
∗The DB-3100D jitter meter measures 3T jitter. (Either the TA-320 or the DB-3100D can be chosen.)
∗The DR-3340 measures error rate.

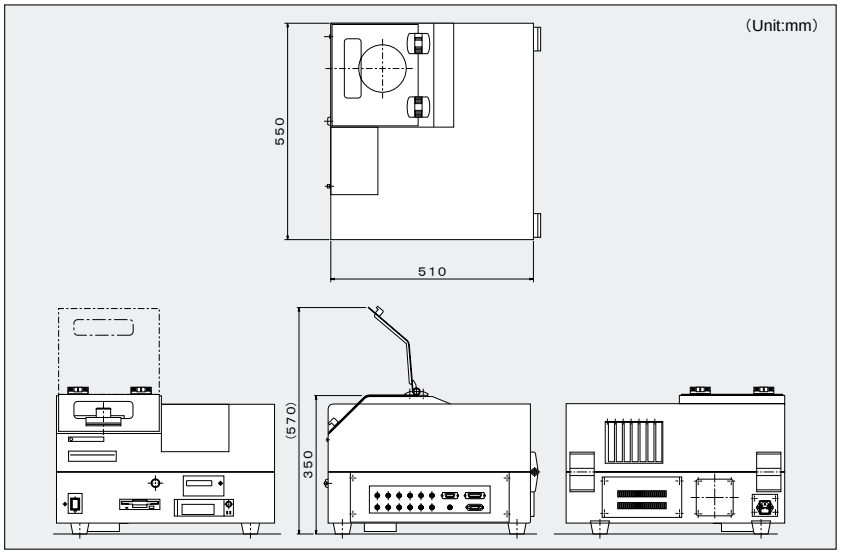
Disc Station for DVD/LM-3300

■Measured Data Items

(The numbers in parentheses that follow a data item name, refer to the sections in DVD-Book (ROM) Part 1 that relate to this topic.)

Mechanical characteristics	Measured using the optical stylus method. [1] Axial runout, deflection and axial deviation (2.6.14 a) [6] Tangential skew [2] Axial acceleration [7] Tilt [3] Radial runout (2.6.15 a) [8] Unroundness [4] Radial acceleration [9] Eccentricity [5] Radial skew
Track error	Calculated by converting the envelope or rms value measured when a servo error signal passes through a specific filter, to a displacement amount. [1] Axial track error (2.6.14 b) [3] Radial track noise (2.6.15 c) [2] Radial track error (2.6.15 b)
Space layer thickness	Calculated from the difference between the axial runouts of Layer 0 and Layer 1, both of which are measured continuously (2.5.2).
Optical tilt (α) (optional)	Measured by means of a dedicated two-dimensional tilt sensor that has a spot diameter of approximately 1 mm and an LED with an approximate wavelength of 660 nm. [1] Radial (α) (2.5.5 a) [2] Tangential (α) (2.5.5 b)
Reflectivity (optional)	Measured by first calibrating the optical pickup in terms of the amount of light received, using a reflectivity calibration disk, and then measuring the amount of light reflected upon the mirror-surface part and information area of the disc under test. [1] Base line reflectivity [2] R-top reflectivity (2.5.7)

■Outer Dimensions



●Windows is a registered trademark of Microsoft Corporation, U.S.A in the United States and other countries.
●Pentium is a registered trademark of Intel Corporation.

■Specifications

Discs Measured

DVD-ROM DVD-R (mechanical characteristics only)

System Configuration

Main Unit [1] Spindle
[2] Slide table
[3] DVD disc clamp
[4] Optical pickup
[5] Two-dimensional optical sensor (optional)
[6] Measurement section
[7] Pickup servo circuit
[8] Spindle and slide drive
[9] Data processing computer (with a 166-MHz Pentium CPU and a floppy drive and hard drive)

CRT display
Control and data processing software
Keyboard
Mouse
Jitter meter (optional)
DVD decoder (optional)
OS Windows

Mechanical System

Turntable	Construction : Based on precision ball bearings Motor : Brushless Revolutions : CAV 60 to 3000 r/min Pseudo CLV 1.0 to 4.0 m/s CLV Standard speed
Disc clamp for DVDs	
Positioning table	Mechanism : Precision linear guide Driving method : DC motor and precision feed screw Stroke : 50mm Positioning resolution : 10 Traveling speed : 10 mm/s maximum

Measurement and Servo System

Optical pickup	Optical head : ONO SOKKI-original special pickup comprising built-in axial and radial displacement sensors Laser wavelength : 650nm Laser power : 0.1 to 1 mW NA : 0.6 Polarization : Circular
Focusing servo	Error detection : Critical-angle method Cutoff frequency : 2 kHz minimum
Tracking servo	Error detection : Heterodyne method (i.e., Push-pull method) Cutoff frequency : 2.4 kHz minimum

General Specifications

Power requirement	Single Phase 100/120/220/240 VAC ±10%
Outer dimensions (Main Unit)	550(W)×510(D)×350(H)mm
Operating temperature range	23±5°C
Storage temperature range	0 to 40°C
Maximum storage humidity	85% RH (with no condensation)

*Outer appearance and specifications are subject to change without prior notice.

HOME PAGE: http://www.onosokki.co.jp/English/english.htm

ONO SOKKI

U.S.A. & CANADA
Ono sokki Technology inc.
2171 Executive Drive, Suite 400
Addison, IL. 60101
U.S.A.
Phone : 630-627-9700
Fax : 630-627-0004

EUROPE
Ono sokki Mess-und Kontrollsysteme GmbH
Im vogelsang 1, D-71101 Schoenaich
Germany
Phone : 07031-630203
Fax : 07031-654249

P.R.CHINA
Ono sokki Beijing Office
Beijing Jing Guang Center 3510
Hu Jia Lou, Chao Yang Qu
Beijing P.R.C. 100020
Phone : 010-6597-3113
Fax : 010-6597-3114

WORLDWIDE
Ono sokki CO., LTD.
1-16-1 Hakusan, Midori-ku,
Yokohama 226-8507, Japan
Phone : 045-935-3976
Fax : 045-930-1906
E-mail : overseas@onosokki.co.jp

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