

Keep in balance: Balance Analyzer Mk. 2

DaTARIUS is pleased to announce the launch of its second-generation Balance Analyzer, the **Balance Analyzer Mk 2**, with the following features:

- ⇒ All disc formats
- ⇒ Standalone unit
- ⇒ Results delivered in less than 10 seconds
- ⇒ Precise indication of unbalance direction
- ⇒ Excellent vibration isolation

The specifications for disc balance are getting tighter in particular for high definition media (BD and HD DVD), and even more strict for recordable formats as write speeds increase.

The forces generated with higher speed drives increase with the square of the rotational rate, so at these higher speeds, the forces can be extreme. When out of balance the resultant vibration can adversely affect read and write performance and drive life. To compensate for this drives will reduce speed thus directly impacting the user with higher write and longer read times.

Disc imbalance is typically caused by thickness variation of the substrate, lacquer coating, dye coating, or bonding layer, as well as asymmetrical label design and disc shape and centre hole placement.



Figure 1: Balance Analyzer Mk. 2

<i>Format</i>	<i>Limit (g*mm)</i>
<i>CD</i>	<i>10</i>
<i>CDR</i>	<i>2.5</i>
<i>DVD</i>	<i>10</i>
<i>DVD+R/RW</i>	<i>2.5</i>
<i>DVD-R/RW</i>	<i>10</i>
<i>BD</i>	<i>4</i>
<i>BD-R/RE</i>	<i>2.5</i>
<i>HD DVD</i>	<i>2.5</i>
<i>HD DVD-R/RW</i>	<i>4</i>

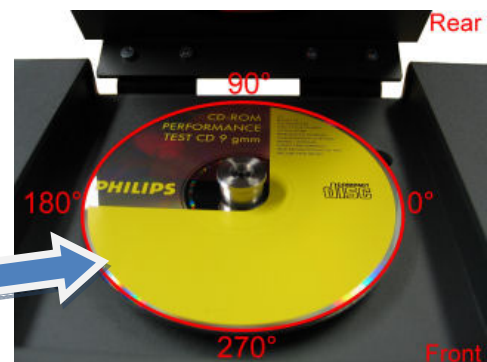
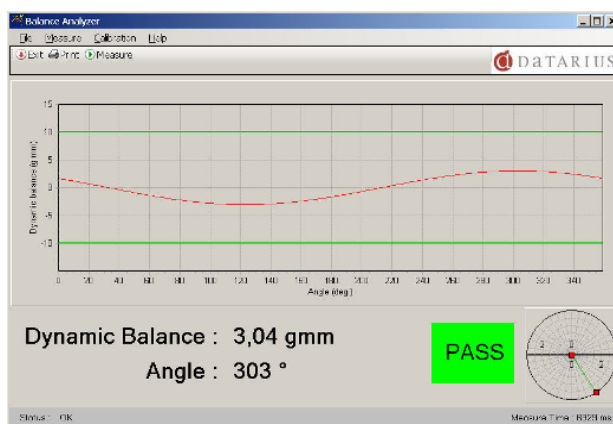


Figure 2: Balance Analyzer Mk II user-interface showing the direction of unbalance

Summary: Disc UN-BALANCE in optical media

Causes

- ⇒ Non-uniformity of the weight caused by the thickness of
 - ⇒ Polycarbonate
 - ⇒ Bonding agent
 - ⇒ Dye/lacquer
 - ⇒ Print label
- ⇒ Incorrect position of centre hole

Effects

- ⇒ At high speed playback, this causes extreme stress on the mechanics, thus reducing lifetime of the drive
- ⇒ Tracking problems during playback/burning process
- ⇒ Slow down of the reading/writing speed

Process Control

- ⇒ Moulding optimization
- ⇒ Dual layer media bonding process control
- ⇒ Eccentricity – centre hole alignment (stamper, moulding)
- ⇒ Print label art optimization
- ⇒ Shape disc optimization

About DaTARIUS Technologies GmbH

The DaTARIUS Group is a global company focused on providing solutions throughout the optical media manufacturing industries. DaTARIUS developed the first commercial CD test system and has over 20 years' experience in the manufacture and distribution of equipment for inspecting, measuring and optimizing at every stage of the optical media manufacturing process.

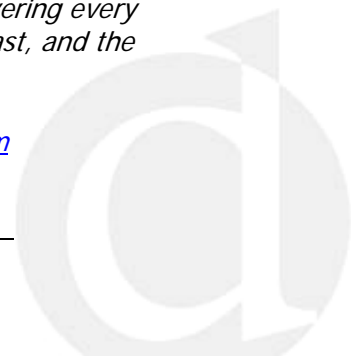
DaTARIUS is unique in providing equipment for the entire production process right through from pre-mastering to print and packaging. Its products are suitable for every optical media format – pre-recorded and recordable – from CD & DVD through to the new blue laser BD and HD DVD formats, and other emerging formats such as HD VMD.

In addition, DaTARIUS also develops and supplies process optimization equipment, such as sprue recycling and mould temperature regulations systems. This broad product range is supplemented by consulting and training services.

Beyond optical media, DaTARIUS, in partnership with InPhase, is developing quality control equipment for the next generation of holographic formats.

With headquarters in Reutte, Austria (R&D, sales and service), and regional offices in America Germany, Japan, China and Hong Kong, the DaTARIUS Group has a global team of 100-plus employees and partners with an extensive sales and service support network covering every major market of the globe: North America, South America, Europe, the Middle East, and the Pacific Rim.

For more information on the company and its products, visit www.DaTARIUS.com



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