

# MISCO Acquires Warkwyn Associates

Loudspeaker and audio systems manufacturer MISCO has acquired Warkwyn Associates, an independent acoustic design, measurement, and testing lab. MISCO president Dan Digre said that Warkwyn will continue to provide its same high level of services for current Warkwyn customers. Warkwyn has relocated from Pakenham, Ontario to MISCO's home base of Minneapolis, Minnesota.

"MISCO is committed to meeting and exceeding the demands of the OEM marketplace for increased high performance in loudspeakers," Digre said. "The acquisition of Warkwyn, one of the best audio R&D companies anywhere, demonstrates our continuing commitment to be the leading US-based OEM supplier of audio drivers. The synergy created by Warkwyn plus MISCO puts us in a unique position to serve the industry with the best and most extensive loudspeaker design, testing, and manufacturing capabilities in North America."

Warkwyn Associates founder Tim Gladwin said that he has known and respected Dan Digre and MISCO for many years. "They've made great contributions to the loudspeaker industry. Acquiring Warkwyn is an ideal fit for them. It adds Warkwyn's advanced testing, measurement, and acoustic design elements to MISCO's already impressive design and manufacturing capabilities."

## Warkwyn testing capabilities

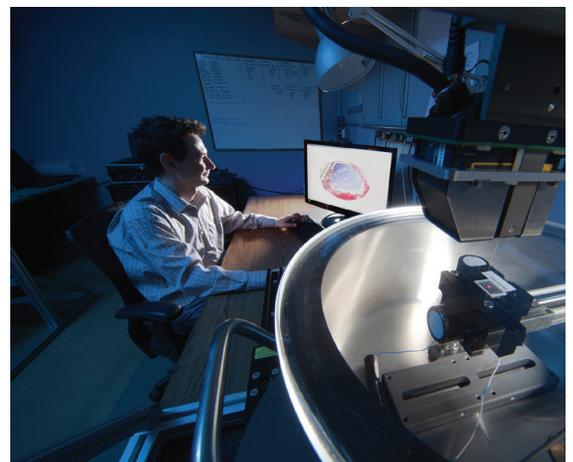
Among its many R&D services, Warkwyn offers Klippel analysis for transducers and systems. Based in Dresden, Germany, Klippel pioneered development of large-signal performance models for loudspeakers. Warkwyn's Klippel testing capabilities include:

- Klippel's revolutionary Near Field Scanner which measures the 3D sound radiation pattern of a speaker system without the need for an anechoic chamber. This is particularly effective for finished speakers – from portable Bluetooth to large professional sound reinforcement systems.
- Klippel Scanning LASER Vibrometer (SCN) to help visualize the vibrational and acoustical behavior of transducers, enclosures, baffles and other parts throughout the audio range.
- Klippel LPM and LSI modules which measure linear, non-linear and thermal parameters and 3D displacement as well as distortion testing. Testing can also be performed in a vacuum chamber, which is very helpful when measuring small transducers such as microspeakers and microphones.



**Dan Digre, President of MISCO**

*"Warkwyn will continue to operate as Warkwyn, providing the same level of enhanced services in Testing & Acoustic Design to their customers."*



**Jason Cochrane, Lead Engineer, Warkwyn**

*"Among Warkwyn's many R&D services, offering Klippel analysis for transducers and systems further supports MISCO's excellent design and manufacturing capabilities."*

- Suspension Part linear and non-linear measurements as well as material parameter measurement (SPM and MPM) including Young's Modulus.

In addition to the Klippel reliability testing equipment, Warkwyn uses True Technologies' LifeTest for long-term and automated power tests. The design team also uses the engineering and quality control modules of Listen's "SoundCheck" as well as SolidWorks, FineMotor, Spead, and FEMM for magnetic circuit analysis.

## **Engineering team synergy**

Jason Cochrane, formerly a lead engineer at Warkwyn Associates in Canada, will head up the relocated Warkwyn testing and design team. Jason joins well-known industry veterans Rich Field and Gary Church, who lead the MISCO engineering staff.

Cochrane is an electrical engineer who joined the Definitive Team at Blue Systems in 2001. He began working on amplifiers, then moved to the acoustic department in 2004 to help with the ProCinema product development. Cochrane was instrumental in several successful products, such as the DI series, the Mythos ST and XTR speakers. Jason left Blue Systems in May of 2010 and joined Warkwyn a month later to work on cutting edge transducer design. Cochrane has several acoustic patent applications in process, and is a veteran of Klippel ongoing education at Klippel headquarters in Germany.

Dan Digre adds... "We are excited about adding Jason's experience and skills to our design and testing group to enhance what we can offer to our customers. A strong engineering team is critical to providing our customers with the highest level of design, testing and manufacturing support possible."

For more information on MISCO's acquisition of Warkwyn, please e-mail: [solutions@miscospeakers.com](mailto:solutions@miscospeakers.com), or, call Dan Digre at **800-276-9955**.

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