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Company Profile

Introduction

THX Ltd. develops technologies and certification programs that help deliver the true vision of filmmakers, game developers and musicians, from their studios to audiences around the world. THX technologies and certification programs are implemented throughout the production chain—from the set and studio to movie theaters and playback devices. The result? Manufacturers produce better audio/visual products, and cinema owners and studio designers create world-class venues. And most importantly, audiences get to experience the true sights and sounds of films and other media exactly like it was created.

Company History

The THX story began in the early 1980s, when many commercial cinema venues around the world suffered from poor acoustics and had inadequate audio systems. Cinema loudspeakers hadn't seen significant improvements since World War II, audience viewing angles were poor, and noise from adjacent theaters and the street often interfered with the on-screen presentation. According to George Lucas, the company's founder, most theaters were failing to deliver a sound and picture presentation that matched the artistic vision of the filmmaker. He believed the filmmaking and cinema industries could benefit from a quality control standard to deliver a consistent level of performance. Lucas soon formed THX and developed a specification for how theaters should be designed, and how films should be presented to movie-going audiences.

Born out of one maverick filmmaker's vision to improve the way audiences experienced his feature films, THX today continues this spirit of innovation at the box office and beyond. The company has taken its creative mix of technology, certification programs, and quality assurance standards to emerging entertainment media and presentation venues. And it has succeeded in revolutionizing how people experience entertainment content through such innovations as THX Ultra2™, THX II Certified Car Audio and the THX Certified TiVo® Series3™ HD digital media recorder. Leading companies from around the globe now look to THX to help them create products and build venues that deliver the highest quality entertainment experience.

THX HOME ENTERTAINMENT

THX Certified Home Audio

The THX Certification programs provide consumer electronics manufacturers with specifications and technologies for improving the design of high performance home theater products. The goal? To help manufacturers create audio/video products that

accurately translate movie, music and video game content to the home environment. The THX engineering team works closely with its manufacturing partners to incorporate the THX standards and technologies into a variety of products, including A/V receivers, speakers and pre-amplifiers. THX also analyzes and pre-qualifies new technologies and components for integration into these products—significantly reducing manufacturers’ research and development costs. Once a product is designed, tested and certified by THX, it carries an internationally recognized performance endorsement, one that helps consumers navigate the complex world of home electronics and make more informed purchasing decisions.

There are three performance categories for home theater products—THX Integrated Home Theater Systems, THX Select and Select2, and THX Ultra and Ultra2. **THX Select2** is an upgrade to the company’s original THX Select™ Certification for AV receivers. THX Select2 Certified receivers are designed to address the growing needs of the newest generation of home entertainment enthusiasts, those who crave immersive DVD, music and video game experiences, but don’t require the full benefits of a large, dedicated home theater environment. In addition to providing product design and performance specifications to manufacturers, THX Select2 offers additional playback features, including THX Surround EX™ and THX listening modes such as THX Cinema, THX Music and THX Games.

While THX Select2 Certified products are designed for small- to medium-sized residential rooms (2,000 cubic feet in size with 10-foot viewing distances), **THX Ultra2** is for the acoustics of larger home theaters. THX Ultra2 Certification is reserved for high-end home theater products, specifically those that have the power to distribute sound to dedicated home theater rooms—3,000 cubic feet or larger with 12-foot viewing distances.

THX Certified Integrated Home Theater Systems are geared to small home theater environments and residential living rooms, a space currently filled by home theater-in-a-box (HTiB) products. Because this THX specification is developed and successfully tested by THX as a system, its components—receiver, speakers and amplifier—are optimized to work together to deliver a THX quality audio experience in an affordable “all-in-one” package.

Each THX certification requires manufacturers to build products that meet or exceed the THX standards for presentation excellence, and include such THX features as Timbre Matching™, Bass Management™ and Re-equalization™ (Re-EQ™). Each THX certification category enables manufacturers to feature popular THX listening modes, which incorporate the company’s proprietary Adaptive Speaker Array (ASA) technology for optimizing playback of multi-channel movies, music, and video games in the home.

THX Certified Displays

When it comes to buying HDTVs, consumers are confused. According to a recent Forrester Research report, close to one-half of consumers shopping for a new TV say they don’t know whether they want flat-panel, projection, or picture tube. With so many choices and no formal standards bodies governing quality, consumers are forced to wade through a sea of specs and product categories when making a new TV purchase.

THX is bringing some order to this chaos by delivering a certification program and performance benchmark that ensures quality across every HDTV technology and product category. The THX Certified Display Program represents a natural evolution for THX, and serves as an extension of its work in home theater and DVD mastering. When creating the program, THX developed proprietary testing methodologies based on cinema, video and post-production standards. This testing is focused on video signal processing and front of screen analysis to ensure that each display can present all HD and standard definition content at the maximum resolution with the correct color and luminance levels.

THX Certified DVRs

The TiVo® Series3 HD™ Digital Media Recorder is the world's first THX Certified DVR. To address this "must-have" product for HDTV buyers, the THX team developed an in-depth video and audio specification for HD DVR record and playback performance. Working closely with TiVo, THX engineers analyzed the TiVo box for key performance features, including frequency response, signal to noise ratios, color levels and deinterlacing, as well as audio playback. THX also performed a series of subjective evaluations, similar to the tests used during the mastering of films to THX Certified DVDs. The TiVo box was subjected to side-by-side analysis of recorded content versus original "over-the-air" material. Together, all of this THX testing ensures sound and visual quality will always remain true to the original broadcast — making for superb HDTV performances.

THX Certified Games

Since sound and visual quality are critical to the success of today's video game titles, THX has applied its expertise and standards for producing and editing audio and video content to the video game industry. Launched in 2003, the THX Certified Games Program is applied throughout the critical stages of game sound and visual image development. The program provides game publishers and developers with standards for how audio and video production facilities should be designed and maintained, as well as how production equipment is installed and performs. THX sets guidelines for studio acoustics, background noise and lighting, providing video game developers a means to present a consistent visual and sound experience across a variety of end-user game systems and consoles.

Through partnerships with leading game publishers, the first THX Certified Games debuted in 2003. Today, some of the most popular titles, including Atari's *The Matrix: Path of NEO*, EA Sports™ *Madden NFL 06™*, and NAMCO's *SOULCALIBUR®III* are THX Certified. In addition, THX is working to develop innovative new technologies for improving how games are created by game developers, as well as how game sound and visuals are experienced by gamers in the home.

THX Certified Multimedia Products

Today's high-performance personal computing systems enable users to experience feature films and play graphically intense video games. As PC technologies, video game systems and home theater products improve their functionality, and move toward working together seamlessly, users are demanding higher quality sound from their systems. At the same time, manufacturers and application developers are all looking for ways to improve sound and picture output, and deliver extreme

entertainment experiences. THX Certified Multimedia Products answer industry demands, bringing studio-quality reproduction to the desktop. THX has created performance standards specific to the challenges of multimedia systems and applications, and the demands of increasingly sophisticated consumers. Dozens of high-performance products, from manufacturers including Altec Lansing, Creative, Logitech and Klipsch, now carry THX Multimedia Certification.

THX CERTIFIED CAR AUDIO SYSTEMS

THX has brought its mix of standards, technologies and certification programs to luxury automobiles. A collaborative effort between THX and the world's premier automakers, the THX Certified Car Audio Program brings superb sound to the luxury vehicle market. Because car interiors vary drastically, the THX Certified Car Audio Program provides technologies and sets standards for audio system and acoustic performance in each individual vehicle model. This ensures that drivers and passengers experience rich, clean and effortless sound under even the most challenging driving conditions.

Today, THX Certified Audio Systems are available in Lincoln and BMW automobiles. BMW is the first European manufacturer to offer a THX Certified Car Audio System. Both the BMW Z4 Roadster and Coupe provide car buyers with a THX system that delivers state-of-the-art sound experiences. From the moment you buckle up, turn the key and hit play, the THX Certified Car Audio System will surround Z4 drivers and passengers with brilliant musical performances. For Lincoln owners, the THX II Certified Car Audio System introduces new technologies for controlling and distributing sound waves throughout the vehicle's cabin. The system leverages the vehicle's acoustically engineered cabin, strategically placed speakers, and DSP technology to encircle both drivers and passengers with crisp sound—creating a very natural surround sound experience. Today, the THX II Certified Car Audio System is available in the Lincoln Zephyr, Lincoln MKX, Navigator and Navigator L.

THX CERTIFIED HOME THEATER EDUCATION

The THX Certified Home Theater Education Program provides professional training on THX technologies and advanced home theater design. The program is divided into two distinct levels of THX certification—Technician I and Technician II. The Technician I program provides sales professionals and home theater enthusiasts with an overview of the THX certification principles. Lasting a full day, the Tech I coursework is designed to introduce students to the theories and principles of THX certification. The THX Tech I certification is also a prerequisite for the Tech II level, which provides more intense training on room acoustics and design, treatments and isolation, and audio-video hardware selection and equipment placement. The Tech II coursework spans two full days, and includes a hands-on workshop detailing system setup and audio calibration.

DVD MASTERING AND POST-PRODUCTION

Today, consumers eagerly await the release of box office hits, as well as the box sets of their favorite television series, on the DVD format. As the industry moves closer to a next-generation HD format, the gap between cinema and home entertainment will

shrink. At the same time, consumers will expect nothing less than perfection in their next generation DVD titles, forcing studios and post-production facilities to improve their mastering processes.

THX offers a complete range of digital mastering, certification and custom-tailored quality control (QC) services that give content providers the means to quickly and cost-effectively introduce high-quality DVD titles to market. THX applies its performance standards to ensure excellence in mastering, quality assurance, and audio and video encoding for DVD releases. From start to finish, every detail of DVD production can be monitored, evaluated and supervised for picture and sound excellence. The THX team works closely with the film studios, networks, directors, and post-production and audio facilities to provide the ultimate DVD experience. Over the years, THX has contributed to some of the most successful DVD and D-cinema projects, including *Finding Nemo*, the *Star Wars Trilogy*, and *The Incredibles*.

THX CINEMA CERTIFICATION

THX Certified Cinemas

The THX Certified Cinema program ensures that movie sound and visuals are accurately reproduced in the cinema auditorium, exactly as the filmmakers intended. In a THX Certified Cinema, the audience gets the ultimate cinema experience because the entire auditorium environment is designed and tested to meet all THX specifications for sound and picture excellence. Through the implementation of stringent performance standards for acoustic performance, background noise, reverberation and sound isolation, THX Certified Cinemas promise that every seat in the house is a good one.

THX is involved at each step of the cinema construction phase, working with cinema owners and engineers to ensure the design plans for each auditorium meets the THX requirements for sound and picture performance. Once construction is complete, THX engineers return to the cinema venue to test for acoustic and visual performance, as well as audience viewing and projection angles. These tests are designed to make sure sound effects, music and dialogue are evenly distributed throughout the cinema, and background noise from other cinema auditoria and lobby concessions does not distract from the feature presentation.

Today, more than 2,000 cinemas around the world are THX Certified. These cinemas are owned and operated by organizations and individuals who are passionate about film presentation and are willing to invest time and attention required to deliver an exceptional motion picture experience. Owners of THX Certified Cinemas understand the value THX brings to the movie-going experience and how cinema certification can positively impact box office sales by providing a marketplace advantage. In addition to giving their audiences the best possible entertainment experience, THX certification provides cinema owners with expert THX technical support and marketing programs that help drive customer loyalty.

THX PROFESSIONAL STUDIO CERTIFICATION

The THX Professional Studio Certification Program establishes specifications for the design of multi-channel recording, screening and theatrical mixing rooms. This

includes providing standards for professional equipment installation, placement and performance. The certification program enables sound designers to work in optimal environments for sound recording, mixing and mastering. It provides them with confidence, knowing that they have creative control and quality assurance during audio mixing and monitoring sessions. Today, some of the world's premier audio mixing studios and screening rooms are THX Certified, including Skywalker Sound at Lucasfilm's Skywalker Ranch and Peter Jackson's Park Road Post in New Zealand.

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