



Touch Features

Touch Stories from Around the Globe

TOUCH APPLICATION: Appliance

TOUCH TECHNOLOGY: ClearTek™ Capacitive

Touch Screen is the Smart Choice for TMIO Intelligent Ovens

Leaving work at 5 p.m.? Getting home at 5:45 p.m.? Guests coming for dinner at 6 p.m.? No problem. Just call your oven on your cell phone and dinner will be hot and ready right on time.

Call your oven? What sounds like an episode of *The Jetsons*® will be reality for today's consumers when intelligent appliance innovator TMIO, Inc. takes its first orders for its TMIO Intelligent 30-inch Double Wall Oven at the Consumer Electronics Show in January 2005.

The award-winning intelligent oven, manufactured by Cleveland-based TMIO, is the first to feature both remote access technology and a refrigeration mode that keeps foods fresh until ready to cook. Designed for the ultimate in ease of use and convenience, the TMIO Intelligent Oven® gives owners real-time remote commanding control with a cell phone, computer, or PDA - allowing consumers to start cooking dinner from the office or on the go.

This remote access allows an owner to operate the oven as if the owner were standing in the kitchen, performing functions such as delaying cooking time, changing oven temperature, refrigerating after cooking, setting a warming mode, and more. Because this advanced appliance demands intelligent and intuitive controls that can also stand up to temperature variations, not to mention the cook's messy fingers, TMIO turned to 3M Touch Systems for a solution. "Standard control panels were extremely limited in their capabilities so we needed a new solution. With 3M touch screens, consumers have a high level of comfort in operating our Intelligent Oven® at home," says David Mansbery, founder and CEO, TMIO, Inc.

3M ClearTek™: the recipe for reliability

The 3M Touch Systems ClearTek™ 6.5-inch capacitive touch screen is a key ingredient in the TMIO Intelligent Oven's recipe for success. This 3M touch screen is able to meet the high temperature requirements, while TMIO engineers' have been able to keep the electronics cooler than most oven designs require. Moreover, its transparent overcoat makes ClearTek™ exceptionally resistant to scratches and abrasions, ensuring consistently accurate and sensitive response to the user's touch even with heavy daily use. Plus, the ClearTek™ screen is ideal for the often messy kitchen environment since



it's easy to clean while being highly resistant to liquids, dirt, and chemicals.

"Durability and reliability were two very important characteristics for the oven's control panel," says Diane Valachovic, Ph.D. Chief Operating Officer, TMIO, Inc. "One critical aspect was the durability of the gasket that lies between the touch screen and the LCD. We saw that the 3M touch screens, heavily used in other industries, demonstrated proven durability in this area, so we took advantage of 3M's experience. We know we have a product with the same high reliability."

The 3M touch screen delivers this high reliability consistently, whether the oven's owner is standing in front of it and

physically touching the controls or virtually "touching" them through remote access. Using a computer, PDA, or cell phone, owners of the TMIO Intelligent Oven® simply log in to www.tmio.com with their name and password to establish a direct link to their oven. An image of the oven's 3M touch screen control panel appears on the computer screen, and users can point and click the appropriate areas to set baking time, temperature, cooking or refrigeration mode, and more.

"There is a huge comfort level in seeing the same controls on your computer screen that you see at home, and that's where the touch screen interface correlates very nicely," says Dr. Diane Valachovic. "We've created the first kitchen appliance that has an LCD and touch screen assembly to control the device, both at home and remotely. Because the screens provide automatic prompts to the user, much like a software wizard, they make the operation of the appliance incredibly easy."

Serving up award-winning innovation

The first TMIO Intelligent Ovens® will ship in 2005, but people have been aware of this smart appliance ever since TMIO unveiled a prototype at the 2002 Consumer Electronics Show. "We got great feedback, and people wanted to know where they could buy it," Valachovic says. "They seemed very comfortable with the touch screen and enjoyed operating it. The touch screen was the key component in terms of the overall appeal of our entire appliance."

Most recently, TMIO, Inc. received additional positive feedback from users of oven test units that were rolled out in 2004. "There have been no difficulties with the touch screen at all," Valachovic says. "That's what we like about 3M. It's a top-notch, high-quality company and their products demonstrate that same quality."

The consumer electronics industry, as well, has recognized the value of the TMIO Intelligent Oven® with 3M touch screen technology.

"We have just received news that our TMIO Intelligent 30-inch Double Wall Oven has received two *Innovations 2005 Design and Engineering Awards* from the Consumer Electronics Association," Valachovic says. "These are very coveted awards, and it is quite an honor to receive them. The 3M touch screen played a key part in the TMIO Intelligent Oven® design for which we received these awards."

The TMIO Intelligent Oven® is setting the trend for home appliances to come, and TMIO is moving forward to meet consumer expectations with other remote commanding controlled appliances that will help make life as easy, efficient, and fun as any Jetsons cartoon.

"3M Touch Systems' technology is essential to TMIO's products," says TMIO CEO Mansbery. "It creates an unprecedented ease of use of the appliance while permitting TMIO to do what others can not accomplish a high level of command and control communication not found with traditional appliances."

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