

Case Study: Chef's Quad-Timer Series

The Need

American Innovative developed the Chef's Quad-Timer line internally as part of the company's core product portfolio. Seeking to leverage the company's patent pending concentric-knob control mechanism (found in the Neverlate™ 7-day Alarm Clock product line), AI product designers surveyed the marketplace in search of another product category to apply it to. Kitchen multi-timers quickly came to light as a product in need of the AI touch. Existing products on the market are difficult to use and lack a key feature – a means by which to visually connect running timers with the cooking items to which they correspond.

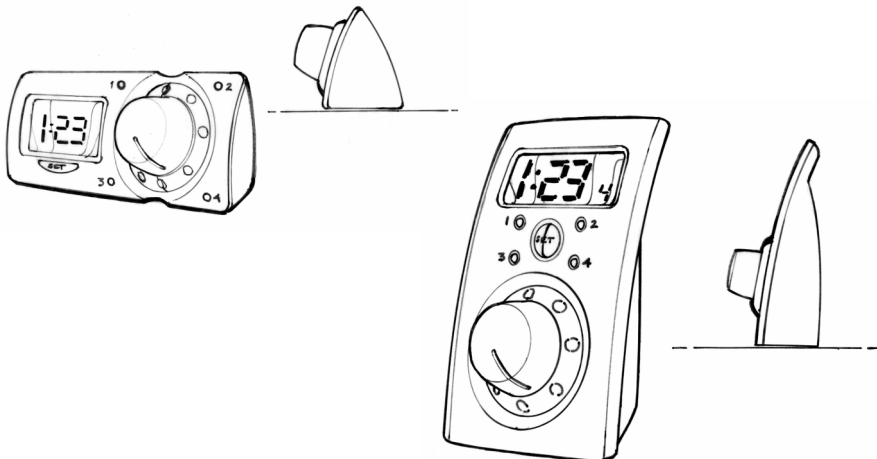
A Fresh Aesthetic

The Quad-Timer line establishes a new class of kitchen multi-timer. AI designed a free-standing product attractive enough to live on the countertop – within easy reach of the home chef at all times.

The Form

AI industrial design staff set out to design a kitchen timer that straddled 'kitchen gadget' and 'small appliance'. Magnet mounts, fold-out stands and other mounting mechanisms were abandoned in favor of a free-standing form that fits comfortably in the palm of the hand yet is large enough to live comfortably on the kitchen countertop.

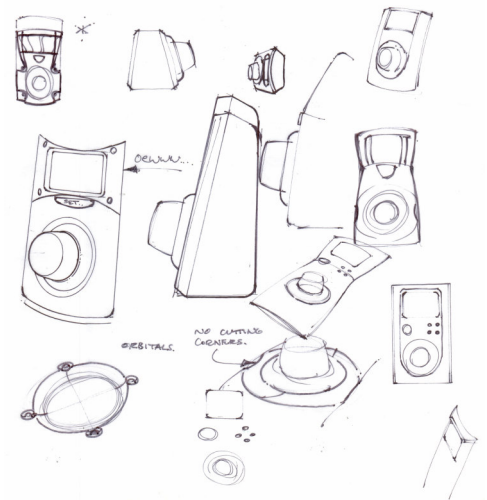
Both horizontal and vertical forms were explored:



(con't on reverse)

Custom Product Development Services

The product development process is an intricate combination of stages, each of which must be performed with an eye for design and an attention to detail. From initial concept sketches all the way through design for manufacture, American Innovative staff takes pride in our ability to design, develop and deliver a first-class product. Our offerings range from a la carte specialty services (such as user interface analysis and design) all the way to turn-key engineering design and manufacturing.



Chef's Quad-Timer Form Exploration

American Innovative uses several 3-D printing technologies to create physical models of product designs prior to mass production. In the case of the Chef's Quad-Timer our modeling exercise revealed that front-rear stability was likely to be an issue in the implementation of the vertical form selected. At this point the design went back to industrial engineering for an exploration of the rear detail (see drawings at right). The solution to the problem: a small tail molded into the battery door to increase the product footprint. Zinc ballast was also added to lower the timer's CG (Center of Gravity).

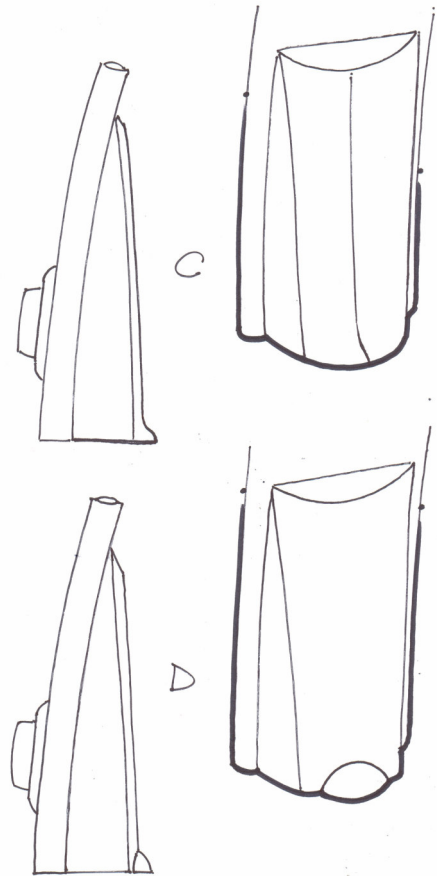
The User Experience

User Interface (UI) engineering is the science of designing the points of contact between the human being and the machine or other object. The study addresses the need to develop intuitive interfaces that encourage productive interaction.



In any design there is a balance to be drawn between depth of feature set and ease of use. In this case, American Innovative UI engineers sought to maximize the utility of the LCD by thinking about "use case scenarios" – how the device will actually be used in practice. Although the Quad-Timer allows for four

dishes to be timed simultaneously, AI found that most frequently only one or two timers are actually used at once by the average user. This discovery drove the decision to utilize the LCD real estate to create a major and a minor display area for a total of only two simultaneously viewable timers. It would have been technically possible to have an individual digital readout for each timer but display legibility would have been compromised for a use case which is infrequently, if ever encountered in practice.



Rear Form and "Tail" Exploration.

The Completed Design



The final product brings to bear an elegant implementation of a unique functional concept, coupled with an eye-catching design meant to stand apart from other products on the market.

Additionally, attention to detail did not stop with the product itself. The four-color closed box packaging and, of particular note, the included instruction manual were carefully designed to convey the feature benefits and

product usage, respectively, in a clear and concise manner.

More Information

For more information purchasing this product please visit our website at www.americaninnovative.com. For information about custom product development at American Innovative please call or e-mail us:

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