



## Dream Homes on Demand

A new breed of architects relies on prefabrication, green materials and techniques, and computer-aided design to imagine the house of the future

BY KEN COUPLAND

**C**RITICS OF THE HOME-BUILDING INDUSTRY have frequently pointed out that the car you're driving—if it were built the way we build houses—would cost, well, as much as a house. And, for most of us, that's way too expensive. Prospective buyers of new homes are not only faced with an absurdly expensive proposition. They're also confronted with the stultifying sameness, poor construction, and dearth of design choices found in the conventional tract home.

Time was a young family seeking an affordable but distinctive contemporary home could hire a comparably young and inexpensive architect to design one. The results, during the golden age of domestic housing design, were some of American architecture's most memorable residential models (for example, designers Charles and Ray Eames's iconic Case Study houses). But nowadays, at the beginning of the 21st century, prospective home buyers with limited budgets and an eye for style are out of luck: Building a quality, custom contemporary home has become prohibitively expensive.

If your idea of domestic bliss is an oversize, omnipresent McMansion, none of this will bother you. But a growing number of American home buyers are looking for something different. As a result, architects nationwide are learning to design and build stylish, affordable homes for their clients that utilize manufactured housing systems, new low-impact materials and processes, and the latest computer technology.

"All we're really trying to do is provide an option to [supplement] what exists in the housing market, one that's still relatively affordable," architect Joseph Tanney says. He's being too modest. The system that Tanney and partner Robert Luntz debuted last year won first prize in the design competition sponsored by the home magazine *Dwell*. Their studio, New York City-based Resolution: 4 Architecture, has pioneered an integrated design-and-build system called "modern modular" that merges conventional mass-prefabrication techniques with a high degree of personalization. The firm's winning design—a two-story, 2,260-square-foot home tailor made for an adventurous couple in Pittsboro, North Carolina—is slated for completion early this year. The home will be factory built, then shipped to the site for finishing—a process that typically takes weeks, not months—all on a budget of merely \$200,000.

Although prefabricated homes account for only a small percentage of the market, a growing number of manufacturers across the United States have sprung up to supply the demand for

mass-produced houses that are cheaper and of better quality and design than the typical tract home. Modular houses, as their creators prefer to describe them, are manufactured in a range of historical styles. To look at them, you'd never guess that these standard prefabs are designed to disguise the fact that they, too, must be shipped according to size restrictions dictated by truck beds. The *Dwell* home, on the other hand, boasts a design scheme that frankly plays up the restrictions on manufactured housing by stacking living modules like building blocks to provide a sleek, contemporary appearance that wouldn't look out of place on a street lined with fancy houses. "We like to look at it as thinking inside the box," Tanney quips.

Seattle-based firm Anderson Anderson Architecture specializes in residential designs that depend on off-site fabrication along with cutting-edge materials and processes to make custom-designed housing more affordable to produce. "The auto industry has increased efficiency and provided better quality by applying modern production methods,"

says architect Peter Anderson. "We're trying to do the same thing for houses." With his brother Mark, Anderson has for the past decade or so designed prefabricated homes for their clients featuring such innovations as foam-and-plywood wall panels, galvanized steel structures, and new-technology skins, in an experimental application of mass customization to building systems.

As both Tanney and Anderson like to point out, prefabrication itself has other advantages besides economy, not least of all environmental friendliness. Manufactured-home builders typically work to the highest federal and state energy standards, and the factory process produces very little of the material waste associated with conventional on-site fabrication. And because a manufactured home can easily cost considerably less than a comparable one custom-built by a top-notch contractor, there's still plenty of room in the budget for quality features and finishes.

Literally at the cutting edge of manufactured housing is architect William Massie, who's turned the design world on its ear with his breathtakingly original residential projects. But what's perhaps most intriguing about Massie's practice is his increasing reliance on computer modeling technology to visualize, prototype, and ultimately manufacture the homes his studio designs.

"It's been happening in automotive design, in product design, and the aerospace industry," the architect says of his innovative use of computer programs to develop mock-ups and, ultimately, the finished product itself. "But there hasn't

yet been a similar trend to do it [in] architecture." Since virtually all buildings are designed on computers now anyway, it seems like a no-brainer to extend the technology to include processes involving 3-D prototyping and the like. Massie has actually set up a shop, in upstate New York, to custom-mill components of his houses using the latest modeling techniques; here, his clients are treated to walk-throughs of the design well before construction is under way.

Does this mean that one day soon you too will be able to explore a physical simulation of the exact same house you ordered, before it's even built? That's not terribly likely. But as more and more architects continue to innovate for discriminating clients, we may finally start to see a new generation of future homes that not only look smart, but are built smart too. ☺

*Ken Coupland writes about art, architecture, and design for a variety of international publications.*

#### ABSOLUTELY PREFAB

The following firms specialize in designing custom modular homes:

- **RESOLUTION: 4 ARCHITECTURE**  
[www.re4a.com](http://www.re4a.com)
- **ANDERSON ANDERSON ARCHITECTURE**  
[www.andersonanderson.com](http://www.andersonanderson.com)
- **MASSIEARCHITECTURE.COM**  
[www.massiearchitecture.com](http://www.massiearchitecture.com)

For further reading, we recommend:

- **PREFAB** by Allison Arieff and Bryan Burkhardt Gibbs Smith (2002), \$39.95.