

FALL 2008

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THE MID-CENTURY MODERN WAY

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Behind Eichler's 32-story dream —
legendary, stunning and swanky

EICHLER

Designers and builders of prefabricated homes go modern and for the green—but what lies ahead?

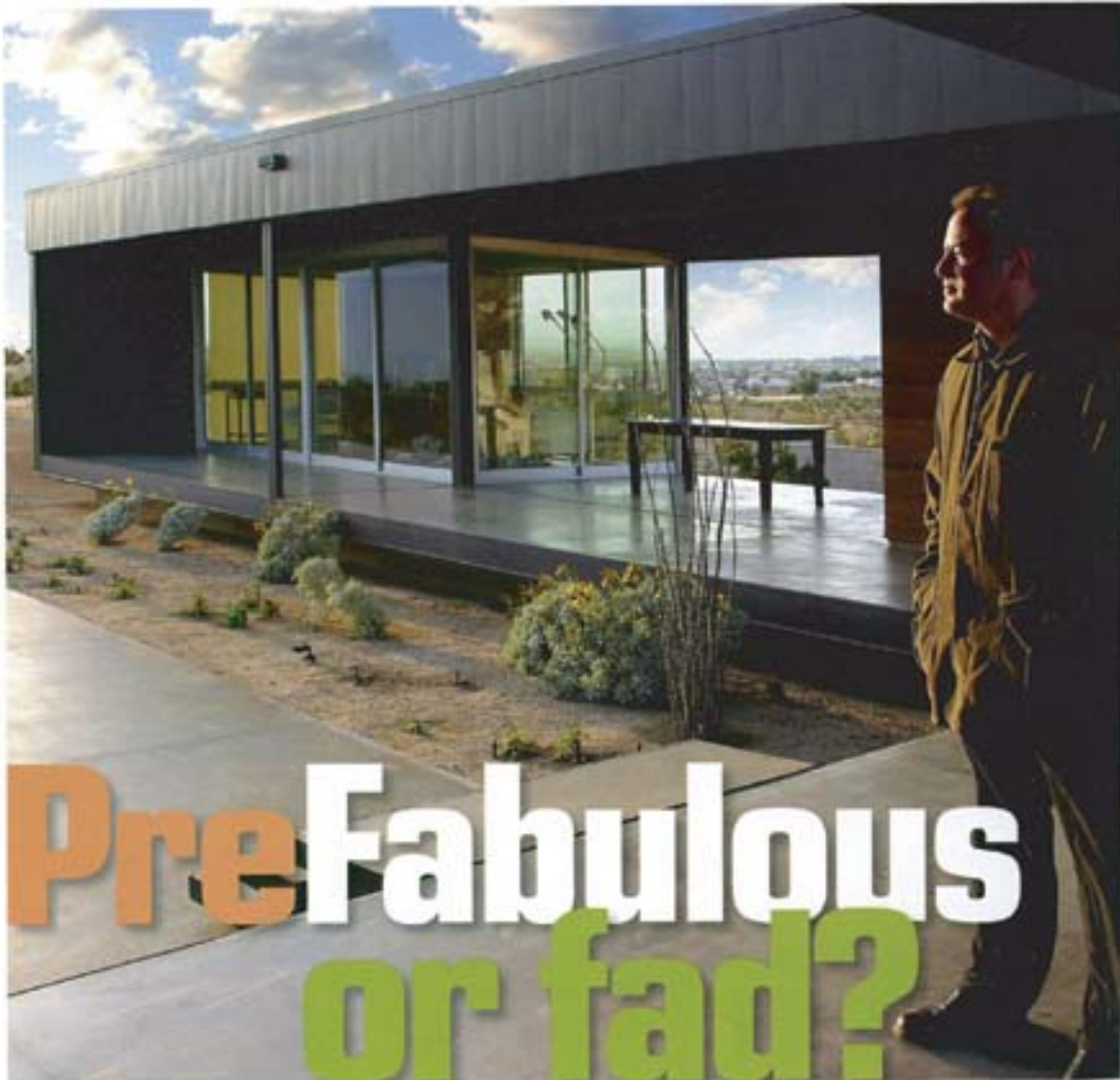
Story: Dave Weinstein
with Joe Barthlow

IS AMERICA heading for a prefab future?

Instead of hammering homes together stick by stick, will builders assemble them in climate-controlled factories and then truck them to the site readymade? Will we replace archaic techniques of homebuilding that haven't changed much since the 19th century with methods that are more efficient and environmentally friendly?

And will all of this lead to a resurgence of well-designed modern homes?

If buzz were buildings, the answers would be yes. Young architects across the country are churning out sleek, hip, and ultra-modern 'weeHouses,' 'MetroHods,' and 'Dockable Dwellings' that are as creatively named as they are designed. The plans are varied, ranging from steel frame to wood frame, from



PreFabulous or fad?



ASSEMBLY LINE. Inside Marmel Radziner's 65,000-square-foot factory, workers construct one of their models using a 12-foot module and eco-friendly materials. Top: Marmel Radziner's Desert House prototype in Desert Hot Springs is a prefab showpiece that has attracted much attention.

metal siding or plywood to composite panels. They are found all over the Internet and in the popular architectural press and are discussed at packed conferences.

Some have even been built.

One of the few architects who has actually seen a goodly number of her designs built is Michelle Kaufmann, whose 22-person Bay Area firm has completed 12 prefabricated homes, has another five underway, and

another 50 going through pre-construction paperwork. Also in the works—a Benedictine monastery in the hills of Big Sur.

All are 'modular,' which means they are constructed in a factory as large room-sized, or multi-room 'modules,' complete with walls, floors, ceiling, plumbing, and fixtures, then delivered on site where they are married to their fellow modules and attached to founda-

What is prefab? Today's prefabricated houses are of two kinds:

Modular, which means the house is built in the factory as a one- or more room-sized 'modules' complete with walls, floor, wiring, finishes—even built-in furniture. If desired—then brought to the site via truck where they can be attached to other modules and to the foundation. Modular houses often arrive at the site in just a few pieces.

Panelized, which means the house is constructed as a series of sections, often wall and ceiling panels that contain wiring and insulation. The panels and other prefabricated elements, including kitchens and bathrooms, are assembled on site. Panels are often SIPs (Structural Insulated Panels). Panelized prefabs can arrive at the site in hundreds of pieces. Kit houses are a variant of panelized systems.

tion and utilities. Kaufmann's firm will build nothing but modular, she says.

"People ask, 'Is prefab just another fad?'" Kaufmann says. "I truly believe it's not a fad but it's a shift in the way we think."

"We think, long term, prefab will be the choice of home building," says Michael Friedman, whose firm Maxx Livingstone Modern Homes is developing modular prototypes of designs by Los Angeles architect William Krisel, the primary designer of the Alexander modern tract homes in Palm Springs from the 1950s and '60s. "Having the ability to control quality and pricing, and also have a lower impact on the environment just makes long-term sense. Residential home construction is one of the last mass industries that has truly not taken advantage of line production."

Marmol Radziner Prefab, an offshoot of the Los Angeles-based architectural firm Marmol Radziner + Associates, whose prototype modular home in Desert Hot Springs has attracted much attention, even runs its own 65,000-square-foot factory to produce steel-framed modules fully outfitted with plumbing, drywall, lighting, and tile work. What's most exciting about prefabrication, partner Ron Radziner says, is, "You can bring modern design to more people."

Another proponent of modular homebuilding is Ray Kappe, whose recent modular house for the firm LivingHomes in Santa Monica has been called the best of the new prefabs—by several of Kappe's competitors, no less.

That shouldn't be surprising. Kappe is a pioneer Southern California modernist who has designed hundreds of wood-and-glass houses since the mid-'50s, many of them floating over steep slopes thanks to his signature concrete towers. Everything he designed from the '50s on, Kappe says, anticipated prefabrication. (In the 1950s, working under contract with NASA, he developed modular housing units with portable power units that could break apart and be used as personal transportation.)

"It's kind of great," Kappe said in a recent interview, "to finally do a modular home at a point where you're ready to retire, and now you have an opportunity to do what you've always wanted to do."

Still, not everyone is convinced that prefabs have finally come into their own. Krisel, working with Maxx Livingstone, has a stake in their success and hopes for the best. But he says, "I've

been an architect so long, I've seen so much talk about prefab, I'm not sure it will work now. Every time I've been involved with anybody wanting to prefabricate one of my designs—and over the years that's been at least ten times—we've always found that that you could build it with stick for less."

Prefabricated houses were a hot concept in the '50s, and had been since the 1920s, when Le Corbusier in France produced a "mass-produced house," followed shortly by Walter Gropius in Germany. In the United States, throughout the Depression, World War II, and the suburban boom that followed, progressive architects dreamed about producing affordable, modern prefab homes for farm workers, war workers, and returning GIs and their young families.

During World War II, Gropius and Conrad Wachsmann tried and failed to build prefab war housing in America. Buckminster Fuller gave it a shot with his "Wichita House," building a total of one. A critic dubbed it "Fuller's glorified grain bin." In 1950, even the builder of the now-legendary Lustron house—which was steel-framed with enameled paneling—went bankrupt.

There have been successes, of course, though few were modern in style. More than 200,000 prefab units were turned out for worker housing during World War II by dozens of builders. A century earlier, entre-



PANELIZED KIT. A construction crew assembles Taalman Koch's iT prototype, a striking, 1,100-square-foot aluminum-framed box with a steel roof that is almost entirely glass. Two others are nearing completion.

preneurs who flocked to treeless San Francisco to profit from the Gold Rush imported 5,000 prefab homes, including Colonials and Carpenter Gothics, from the East Coast and Europe, shipping many around the Horn. And who can forget the Sears Roebuck kit houses, built from roughly 1900 to 1940?

The ubiquitous "trailer," later dubbed a "mobile home," remains an integral part of the American landscape, of course. But "mobile homes" are not what architects mean when they talk about modern prefabs. "It's a word nobody wants to use," says architect Bryant Yeh,

whose Los Angeles firm Yeh + Jerrard has designed the prefab JoT house.

Nobody, that is, except architect Jennifer Siegal, whose Office of Mobile Design in Los Angeles really does produce homes that can move from site to site. Siegal has said she's responding to the "new nomadism."

"The early modernists put the prefabricated house at the center of their program of reform," Colin Davies observes in his book *The Prefabricated Home*. "Architectural history may pretend otherwise, but the fact is that their prefabricated house projects all failed."

California's prefab crop: 7 modern models on the rise



SOME OF THE MOST FASCINATING of today's modern prefab designs are emerging right here in California. Profiled in sidebar throughout this article are seven of California's top candidates currently underway. Prices vary and do not include the cost of land or grading. Most of the houses have custom options. In general, the homes sell for \$130-300 per square foot, which means a typical house would cost \$250-350,000, without land, grading, utility hookups, custom extras.

1 Taalman Koch Architecture: the iT House

WHAT: The iT House

TYPE: Panelized kit house

FEATURES: Constructed with a Bosch aluminum post-and-beam frame, a steel roof, and off-the-shelf parts, this 1,100-square-foot, two-bedroom design uses inch-thick glass panels around most of the house. Vinyl, decorative panels ("outPITs" - see examples at left) designed by artists provide privacy and filter the light.

WHERE: Based in Los Angeles. They are starting one model in Joshua Tree. Two other iT houses are nearing completion.

CONTACT: www.kitthouse.com

2 LivingHomes: the LivingHome

WHAT: Ray Kappe designed the first line of homes for LivingHomes. "Not making it look like a prefab space was one of our goals," says Steve Glenn, the company's founder.

TYPE: Modular

FEATURES: LivingHomes mixes green building technologies with modern aesthetics, and was awarded the first Platinum rating by the United States Green Building Program's LEED Home program for the model home in Santa Monica.



WHERE: Based in Santa Monica

HOW MANY: A steel-framed, 2,500-square-foot prototype was built in Santa Monica. Ten homes are under contract in California and a LivingHomes community is planned in Joshua Tree. A second line of LivingHomes is being developed with architect David Hertz.

CHECK OUT: The prototype house can be visited, by appointment (via the website), at 2914 Highland Avenue, Santa Monica.

CONTACT: www.livinghomes.us



4 Michelle Kaufman Designs: the Breezhouse

WHAT: The Sunset Breezhouse (1,890 to 2,470 square feet), the Sidebreeze (2,500 square feet), the Glidenhouse (672 to 2,255 square feet). More designs are on the way.

TYPE: Modular, wood-framed

FEATURES: The Breezhouse features an open, high-ceiling central breezeway living area, beneath a butterfly roof, flanked by sleeping and utility areas. Eco-friendly materials, high-performance insulation and mechanical systems, solar panels,



energy efficient windows, a choice of siding.

The single-story Glidenhouse had a single-pitched roof and a wall of south-facing glass protected by movable wooden louvers.

WHERE: Based in Oakland

HOW MANY: Twelve homes are complete, five are underway, another 50 are in pre-production.

CONTACT: www.mkd-arc.com



3 Marmol Radziner Prefab: the Desert House

WHAT: The Desert House is a prototype for Marmol Radziner's modular homes.

TYPE: Modular, steel framed

FEATURES: Marmol Radziner builds its homes, based on a 12-foot module, in its own factory, and designs custom prefabs. Models come with modular decks, use eco-friendly materials, and can be equipped with solar panels.



WHERE: Based in Los Angeles

HOW MANY: One has been built in Desert Hot Springs; two are going to Moab, Utah, and Las Vegas; 18 more are under contract.

CONTACT: www.marmolradzinerprefab.com



Why? The federal government, which in time of crisis threw money at prefabs, repeatedly grew bored and turned off the tap, Davies notes. Several of the architects, including Wachsmann, seemed more interested in designing ideal prefabs than in their actual manufacture. And the few prefabs that were available couldn't compete against conventional stick-built tract homes, which likewise benefited from efficient, rationalized mass production.

Today, however, is different, proponents say. Technology has improved, quality manufacturers exist (many have been producing modular school rooms), and there is pent-up demand for modern, affordable architect-designed homes. The last time middle-class people could really afford custom modern homes, after all, was in the mid-1960s.

Designers attribute the newfound interest in prefabs to the desire to save the planet through green design, design-savvy young people, and increasing housing costs that are forcing architects—and buyers—to come up with creative solutions.

Kappe also believes that *Dwell* magazine helped stimulate interest by sponsoring recent competitions for well-designed prefab houses, and having the winner built in North Carolina.

Sunset magazine also worked with Kaufmann on the Sunset Breezhouse. *Time*, *Newsweek*, *Business Week*, and other publications wrote about the new prefab designs. "The press has been wonderful," Kaufmann says.

One thing that is not driving the newfound interest in prefab is a desire to produce something that's bargain



TEAM WORK: Architect Ray Kappe (left), a prolific veteran modernist, and LivingHomes founder Steve Glenn oversee their first prototype going up.

basement. Chic, more than cheap, is what designers and buyers are after. "It's not really cheaper," architect Alan Koch says of prefab versus conventional construction, "but you get a better quality product for the same price."

In a factory, Friedman says, conditions can be controlled, and workers more

closely supervised than on the typical building site. The result, he says, is better quality. And on site, the homes go up quickly—often in a day, if they are modular, longer, if they are panelized.

Supplying what architects of the '50s and '60s called 'social housing'—low-cost houses for workers or homeless people—may not be the primary goal of the new prefabbers. But it is something that many hope to accomplish once production gears up. Instead, most architects' social concerns involve protecting the environment.

Prefab houses are kinder to the earth in part because they are smaller than conventional houses. "There are people who are attracted to the Mini-Cooper instead of the minivan," Koch says of his potential customers. "They are looking for something small and smart."

There is also much less waste manufacturing homes in a factory than on site, Kaufmann says.

And most prefab designers promise to site their houses to reduce energy use, and use sustainable materials and non-toxic paints, and many outfit their homes with solar panels. Wind turbines



DESERT OASIS? "My theory about Joshua Tree is it's the new Malibu," says Alan Koch (above) of Tsalman Koch about his company's direction.

are an option on Kaufmann's designs; they are especially useful for housing in remote spots that are off the electrical grid—including the monastery.

Buyers include people who are committed to living easy on the earth, says Steve Glenn, the founder of LivingHomes.

"I think there is a big chunk of people who care deeply about design and who care deeply about the health and sustainability of the products they buy, but currently buy homes that don't really reflect those values unless they have the time, money, and stress tolerance to do it themselves," Glenn says.

"These houses fit people who love design and who love health and sustainability," he says. "The group could be called the cultural creatives, the

Prefabricated problems

Prefabs were more than a challenge for Sacto's Strengs

TO MANY MODERN ARCHITECTS, manufactured houses are a vision—factory-built but custom-designed, affordable yet stylish, an elegant solution for the housing crisis affecting working and middle-class people worldwide.

For architect Carter Sparks, manufactured houses were real—perhaps all too real, particleboard and plastic pipes and all. In the mid-1980s, working for the Steng Bros. developers, Sparks designed two communities of several dozen prefabricated houses in the Sacramento Valley.



The experience suggests that the success of prefabs, manufactured homes, or factory-builts—call them what you will, except 'trailers'—depends as much on execution as on vision.

"Carter looked forward to it as an opportunity to provide his designed homes at a lower price to people who couldn't afford his other houses," says Jim Steng, who ran the firm with his brother Bill for 30 years beginning in 1959. The Stengs, who succeeded in bringing modern architect-designed tract homes to the Central Valley, figured they could do the same with manufactured homes.

The Stengs don't regard the prefabs as their finest hour. "They didn't look good," Bill says, "and they didn't sell well."

"We took low bids," Jim says, "and we got what we paid for. I guess they were not well built."

"They were mobile homes," Jim concedes. "They came in on a trailer. We removed the wheels and set them on the foundation. They're really mobile homes."

Bill adds: "Carter made them less bad than other manufactured houses."

The Stengs regarded the project as a failure primarily because of slow sales and poor quality construction. They also felt that aesthetically, they never achieved that true, Carter Sparks look. Plans to complete both neighborhoods with hundreds more of the manufactured house halted. In both neighborhoods, remaining lots were filled with conventionally built houses.

The two neighborhoods, however—in Rio Linda, an unincorporated town north of Sacramento, and in the Presidents Park subdivision of Woodland—remain well-kept. They still play the same role in the housing market as when they were new, and attract the same sort of people—blue collar and service workers, and entry-level buyers.

James Hatch, an original owner from 1986 who remains in his Presidents Park home, remembers why he bought—price. Most owners say the same. "I told my wife we couldn't afford a house," Hatch says.



FAILED VENTURE. Steng Bros. Jim Steng (above): "They [our prefabs] didn't look good—and they didn't sell well." Top: One of Steng's Rio Linda prefab homes today.

"My wife looked into it. She said our house payments are going to be a dollar more than what we're paying for rent."

"We liked the neighborhood," says Melissa Diller, who moved to Presidents Park 12 years ago with her husband, "and it was a price we could afford."

But Sparks, a highly regarded Sacramento modernist, did succeed in providing the prefabs with some of his distinctive touches, and in disguising their basic nature. "It feels like a regular house inside," Hatch says.

Walking through the neighborhoods, you'd never think you're in a mobile home park. Once the Stengs

stopped importing prefabs, ranch-style houses filled the remaining lots. Both the ranches and the prefabs share similar lines—low gables, side garages—so they form a coherent streetscape.

It's not always easy to identify the Steng prefabs because many have been remodeled. Clues are the standard Steng vertically grooved plywood siding, a breezeway found between the manufactured home and its conventionally built one-car garage, and a low concrete foundation. Although the narrow end of the house faces the street, the breezeway-garage combination produces a suburban, ranch-like appearance.

Sparks did what he could to give his manufactured homes the same look as his standard Steng houses, which had walls of glass opening to the backyard, slab-on-grade construction for indoor-outdoor flow, open-beam interiors, tall ceilings and interior 'atriums'—informal areas with plantings beneath a skylight.

None of that could be accomplished in the manufactured houses, which were stick-built in the factory, with 2x6 lumber for exterior framing and 2x3s for the interior, instead of the Stengs' usual post-and-beam construction.

Instead of glass walls to the backyard, Sparks provided a sliding glass door, or a pair of sliders for the double-wides. Because the houses are raised on foundations, however, the indoor-outdoor flow was less evident, Jim notes.

Although the houses, which ranged from 800 to about 1,400 square feet, had no room for atriums, the covered, open-beamed breezeway provides a pleasant alternative.

Inside, Sparks managed to provide some modernist drama, with tall, single-sloped shed ceilings in single-wides, and vaulted ceilings (where the two sheds come together) in double-wides. Sparks emphasized the sloped roofline, repeating the shape in the clerestory windows.

Living-dining areas, which are just to the right of the front door, have a surprisingly spacious feeling. "This

5 Maxx Livingstone Modern Homes: the Krisel Butterfly



WHAT: Maxx Livingstone Modern Homes plans a line of prefab houses designed by William Krisel, based on his designs from the 1950s and '60s for the Alexanders of Palm Springs.

TYPE: Modular



FEATURES: These modular prefabs use nearly the same floor plan and elevations as Krisel's designs from 45 years ago. Base models of the Krisel homes are 1,025 square feet.

WHERE: Based in Canada and Los Angeles, initially working in the Palm Springs/Joshua Tree area.

HOW MANY: One conventionally built version is underway in Palm Springs and will serve as a showpiece home.

CHECK OUT: The showpiece will be constructed at the corner of San Lorenzo and Camino Real, Palm Springs.

CONTACT: www.maxxlivingstone.com

7 Office of Mobile Design: the Swellhouse

WHAT: Several designs, including the Swellhouse, Portable Home, and the Take Home, by architect Jennifer Siegal

TYPE: Modular, and mobile

FEATURES: Steel-framed, sleek, and boxy, and filled with glass, Siegal's mobile homes look like no one else's. Her modular homes are designed to be movable, open to customization, and to "rest lightly on the land." The Portable Home can expand and contract, and



re-orient itself on the site to take advantage of seasonal sunlight.

WHERE: Based in Los Angeles

HOW MANY: OMD has turned out a number of mobile homes, an artists-in-residence community in Los Angeles called Ecoville, and mobile classrooms. Siegal has her own Swellhouse in Manhattan Beach.

CONTACT: www.designmobile.com

6 Yeh + Jerrard: the JoT House

WHAT: The JoT House (name comes from Joshua Tree)

TYPE: Panelized, using SIPs panels

FEATURES: The stripped-down, one- to three-bedroom, post-and-beam box, roughly 1,300 to 1,400 square feet, has movable interior walls, a window wall, shed roof, stucco



exterior, rows of clerestories, and a central core of bathrooms, kitchen, and laundry.

WHERE: Based in Los Angeles

HOW MANY: Two prototypes in Joshua Tree; another in the Silver Lake district of Los Angeles.

CONTACT: www.yehjerrard.com

conscientious capitalists."

Buyers are also people who would like a custom home, without the custom-home hassles or costs, he says.

Not surprisingly, the new prefabbers are going after artists and those with an artistic sensibility. That's one reason Joshua Tree, a growing artists colony in the high desert east of Palm Springs, is home to several new prefab homes, with many more on the way, including houses that Bryant Yeh (of Yeh + Jerrard) and Alan Koch and Linda Taalman (of Taalman Koch Architecture) are building for their own use and to use as showpieces. Maxx Livingstone also plans to build Krisel prefabs in Joshua Tree, and Marmol Radziner has clients in town as well.

Taalman Koch, whose biggest project was an art gallery, Dia Beacon in upstate New York, exemplifies the architect-artist connection that underlies much of the revived interest in prefab.

The firm has collaborated with a number of artists on art project "houses," including Chris Burden's ten-foot high "Beehive Bunker" made of premixed cement bags. For its (T) house, a striking, aluminum-framed box that is almost entirely glass, a degree of privacy and a whole lot of art are provided by patterned, one-of-a-kind, artist-designed vinyl film (what Taalman Koch calls "artPVC") that attaches to the glass.

One of their collaborating artists is Jan Isermann, who lives in an all-steel

house in Palm Springs designed by Donald Wexler. "The owners are art collectors, and they got interested in the (T) house because they wanted to collect some of his work," Koch says of his clients for the Isermann-decorated home. "They see the house as living artwork."

But it's not just the art-centric who are potential customers. Kaufman says she and her husband got into prefab when they couldn't find an affordable home in the Bay Area. Bryant Yeh and his wife are facing a similar affordability gap in Southern California. "Housing prices are spiraling out of control," he says, "so architects are looking at prefab."

Many of the new prefab homes



ALEXANDER REVIVAL: "Over time...prefab will become more of a dominant force within the residential construction industry," says Maxx Livingstone's Michael Friedman (above), who is building in the desert.

are being built on small, urban infill lots, or in the hinterlands where land is relatively affordable. That explains the attraction of Joshua Tree. It's close enough to Los Angeles and San Diego, far less expensive than Palm Springs, and artistically cutting edge.

"My theory about Joshua Tree is it's the new Malibu," Koch says. "It sounds like a crazy statement, but if you think about what Malibu was 60 years ago, it was the frontier, people had little beach shacks."

Modular homes can be cost-effective in remote areas, like Joshua Tree, where the price of labor drives up the cost of conventional construction. But as prefab grows more popular, driving costs down, it will be able to compete everywhere, proponents say.

"We believe currently that prefab homes are best suited in areas where building traditionally may not be feasible," says Michael Friedman of Maxx Livingstone. "Over time we think this will change and prefab will become more of a dominant force within the residential construction industry."

Today, many buyers of modern prefab homes are seeking vacation homes. In the future, some say, buyers will include entry-level buyers seeking first homes. "I think the goal is to use this technique for affordable homes," Kappe says, "if you can get it down in price."

That's why some architects and developers, including Kappe and LivingHomes, hope to produce entire communities or prefab housing, including condos, to achieve economies of scale. LivingHomes is considering a community of starter homes, Kappe says, and so is Taitman Koch.

Yeh + Jerrard have a similar idea, Yeh says. "We're looking at building sustainable single-unit models that we can scale up, with the help of a developer."

"The payoff comes when you have economies of scale," he says.

Architect Ray Kappe remains hopeful but, like Krisel, cautious. "We'll see where it goes," Kappe says. "There's just a limited demand for high design modern architecture. Hopefully it will take off." ■

Photography: John Eng, Barry Sturgill, James Watts, Benny Chan; also courtesy Clifford Public Relations, LivingHomes, Marmol Radziner Prefab, Maxx Livingstone Modern Homes, Michelle Kaufman Designs, Office of Mobile Design, Social Blueprint, Taitman Koch Architecture, Yeh + Jerrard. IT House outfit illustrations: Conny Purtil, Barbara Bestor, Jim Isermann, Renee Petropoulos, Worthington/Kim

ITERS UPSCALE (continued from pg 27)

is really what sold us," Richard Klein says of his living room. The Kleins are original owners in Woodland.

The floor plan is simple—open living area to one side of the front door, with a small kitchen half open to the living area. A narrow hallway leads to two or three bedrooms and one or two bathrooms.

Despite their modern touches, Sparks' manufactured houses look so little like the classic tract houses he designed for the Strengs that Melissa Dittler, who grew up in a Streng house nearby, never suspected that her manufactured home in Woodland was also a Streng.



Fans of modern style haven't flocked to the Streng manufactured houses. That, of course, was never the idea. "At that time we were a union builder and most of our competitors were going non-union," Jim says. "We felt we couldn't go non-union. But by going manufactured, we felt we could circumvent the union and have a product that would be competitive with the non-union stick builder."

In Presidents' Park, the houses sold in the \$70,000 range, which was less than comparable stick-built houses—but not by enough, the Strengs say. "Our prices, by the time we put them on the foundation and added garage, were not much less than the 'stick builders' in the area, and the quality was not as good," Jim Streng says. It took longer than expected to receive the houses from the factory, Bill adds, and once the houses were delivered "we had to fix things."

Besides using an architect to design the homes, the Strengs sold them with the lot included.

"Our thought was that trailer parks give the buyer the worst of all possible deals," Bill says, "because they buy the part that wears out, the house, and the part that appreciates, the lot, they rent. Our idea was

to sell them the lot and attach the house to a real foundation so the house is real property, not personal property."

Streng Bros., who were always known for customizing their plans, maintained that practice with their manufactured homes. "The Strengs offered choices," says Hatch's wife,



Nonie, "but they didn't want you to know about them."

Their house has a freestanding wood-burning stove, as shown in the model home. But it doesn't have the clerestory glass over the sliding doors because the Hatches didn't know that feature was offered, she says.

For Jack Dobbins, a trucker, the Strengs built a house with no breezeway. And for a neighbor of the Hatches in Woodland, the Strengs included a five-foot-round fire pit in the center of the living room.

Dobbins is thankful he chose another upgrade—a plywood floor, not standard particleboard. "You know what happens when it becomes wet?" his wife Margaret says of particleboard. "It becomes mush." That's exactly what happened in many houses when the plastic plumbing burst.

Owners also complain about poor construction, leaky roofs, and sound insulation. "Especially when my son plays his bass," Richard Klein says, "boom, boom, boom!"

The manufactured homes were among the last projects the Strengs worked on together. "This was about the time I was abandoning Bill to go with the county," says Jim, who was elected a Sacramento County supervisor.

In retrospect, Bill says, they could have succeeded with manufactured houses if they had a better quality product. That's one reason he believes a similar venture could succeed today. Manufacturers produce better homes. In a factory as opposed to a conventional job site,

he adds, "Quality should be easier to control because you have the same people doing it over and over."

Bill also suggests that modular housing today more closely resembles the conventionally built competition. "Lots of lower-end houses are attached, so they are almost by definition rectangular," he says, "which the manufactured houses are also."

"It seems to me manufactured houses should be able to compete on an even basis, and have more buyer-acceptance today," Bill says, adding, "So yeah, they may come into their own one of these days."

Mobile homes, he notes, have an even bigger cost advantage in remote sites, where costs are high to truck in materials and men.

Manufactured homes also have a greater appeal today to fans of modernism—unlike the 1980s when, as Jim Streng notes, "People who live in mobile home parks didn't appreciate modern architecture." Today, with books and magazines proclaiming their virtues, manufactured homes are starting to appeal to people who want chic more than cheap.

The Streng manufactured homes may have failed as a business venture, but people still appreciate them. Linda Morgan, who moved into her Rio Linda single-wide a year ago (next to her son, who lives in what she calls "a real house"), wishes she had a dining room. But she appreciates the breezeway, the openness, and the layout. "It's kind of cute, the way they set it up," she says.



VISION + EXECUTION. With prefabrication, architect Carter Sparks (above) looked to provide his designed homes at a more affordable price. Top left: Bill Streng today: "Carter made them [prefabs] less bad than other manufactured houses."

Photography: David Boege, Dave Weinstein