

10 TOP TECH TOWNS

# WIRED

JANUARY 2007 **CURIOSLY STRONG**

- BIONICS
- GENETICS
- DRUGS

# BEYOND THE body

THE SCIENCE OF HUMAN ENHANCEMENT



**DECODING  
THE MYSTERY  
OF THE INCA**

**HOW NASA LOST  
THE APOLLO VIDEO**

**GO GREEN!  
WIRED HOME '07**



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3

## Ice Box

**Beach living** isn't for wimps. Even around LA, the days are hot and the sea breezes can be bone-chilling. Most ocean-front homes here are heated and cooled with traditional ozone-depleting systems. But when architect David Hertz designed the three-story Panel House for Thomas Ennis, he found a cooler solution: In place of walls, he installed industrial refrigerator panels. When the house gets cool – or warm – it stays that way. Now Ennis lives in a very large, very comfortable thermos. – **Janelle Brown**

### INSULATED PANELS

The 30-foot-tall by 30-inch-wide refrigerator panels – each 6 inches thick – have a foam core, an aluminum skin, and an insulation rating about four times greater than any residential wall. The exterior side of the panels is coated with industrial paint that lasts up to 40 years and requires almost no maintenance. Because they're prefab and don't need wood framing, the panels also saved a few trees and eliminated a lot of onsite-construction waste.

### THERMOSTAT

A networked control system with outdoor and in-floor sensors takes the temp, then adjusts the heat.

### SMART GLASS

The house is a west-facing glass box – a recipe for greenhouse-like warmth and glare. A reflective film cuts heat and blocks low sun, while a low-emissivity coating helps keep the house warm at night.

### FIRE PIT

The pit, filled with curls of recycled metal from Ennis' fabricating plant, burns natural gas.

### ELEVATOR

A pneumatic, glass-enclosed elevator modeled after a vacuum mail tube – more energy efficient than a hydraulic or electric model – shuttles from basement to roof.

### CLEANER WASHER

An automated window-washing system uses reverse osmosis to purify H<sub>2</sub>O so mineral deposits don't leave spots. Wastewater from the process flows to a cistern, where it mixes with collected storm water and runoff. The resulting gray water is used for landscaping.

### AUTOMATIC WINDOWS

Living room windows are mounted on a motorized gear system that lowers all but 3 feet of the glass and surrounding panels into the basement, opening the house to cool breezes. When windows are closed, an inner tube-like seal inflates around them; when they slide open, the seal deflates.

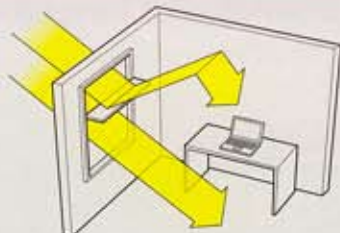
### SURF CAM

A rooftop webcam lets Ennis' friends log on to check conditions before heading to the beach.

### HOW TO:

## Deflect the Glare

A HOME OFFICE THAT FACES SOUTH IS A MIXED BLESSING: YOU WANT THE NATURAL LIGHT, BUT THE RAYS ARE HARSH ON YOUR SCREEN. CUT THE GLARE BY INSTALLING LIGHT SHELVES. THESE PLATFORMS MOUNT ON THE INSIDE CASING OF A WINDOW AND REFLECT BEAMS TOWARD THE CEILING, CREATING INDIRECT GLOW. – **B.P.**



**1.** Make a light shelf the width of your window from specialty construction plywood and paint it white.

**2.** Affix a mirror or piece of polished, galvanized steel to the top surface. Steel provides more even illumination. Watch out for areas of intense heat – over time they can burn.

**3.** Paint your ceiling white, all the better for photons to bounce around your workspace.

**4.** Hinges are a helpful option, letting you drop the shelf when the summer heat becomes too great. Why save on lighting only to pay more on cooling?

