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GO AHEAD: COLOR OUTSIDE THE LINES

For many of us, a family fun room consists of a basement area outfitted with a sofa or sectional, perhaps a recliner or two, arranged in front of a big-screen TV for watching sports and movies or playing video games. It might even include a bar and a game table. And that setup works just great for a lot of people. But don't feel constrained by "typical" visions of a family room.

Instead, take inspiration from the imaginative family areas on the following pages. Many of the featured spaces aren't even "rooms" in the traditional sense, such as the kids' tree house on *page 8* or the outdoor hockey rink and warming shack on *page 12*.

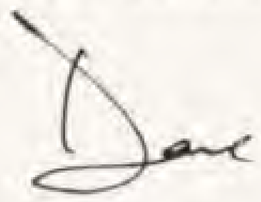
Other family fun zones were designed for indulging hobbies. For example, Shannon Wilson and her children spend quality time in their crafts room (*page 92*), while Kevin Keinert pursues his passion for collecting and restoring arcade machines in a space used by his entire family for parties and other gatherings (*page 104*).

If exercise is your thing, several of the featured spaces include workout areas, and we've even provided a guide to buying your own fitness gear on *page 50*. (Although, personally, I find it difficult to use the words "exercise" and "fun" in the same sentence.)

To really make your family fun room the center of attention, build in a unique feature, such as a fireman's pole (*page 4*), kid-sized lighthouse (*page 100*), or an eye-grabbing bar, such as the curved one *above*.

Of course, above all else, the spaces shown here have one thing in common: They enable good times with family and friends. And that's the key objective, no matter how you go about it.

Dave Campbell
WOOD® magazine
Editorial Content Chief



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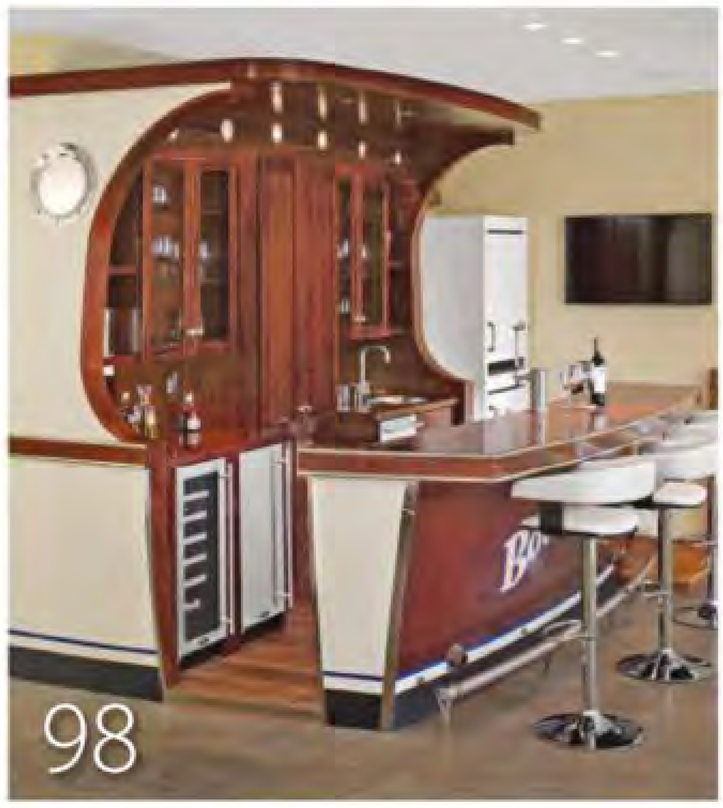

Where Boys Can Be Boys

When you have three active boys ages 6 and under, things can get a little rowdy. Just ask Matt and Kim Mausser. "In our old house the kids gravitated to the main living areas, which we tried to keep nice," as Kim puts it. "So in our new home we wanted a space just for them, where they could play and be safe." That space turned out to be an attic above their new home's attached garage. Unfortunately, the space was accessible only through the garage using a pull-down attic door with ladder. "There was lots of space up there," remembers the Mausser's contractor, Kevin McGlothlin of Moab Construction, "but it was filled with roof trusses crisscrossing every which way, making it practically useless." Converting the 20×28' area into livable space required drastic action. "First, we installed a steel beam the length of the garage ceiling to support a new floor deck of 2×12 joists," says Kevin. "Then, we reframed the roof over the garage with conventional 2×12 rafters, and cut a hole into an upstairs hallway and reframed it to create an opening into the space. Finally, we cut out the trusses, and finished the space with air ducts, electrical wiring, insulation, and drywall."

Turning the newly claimed space into a kid-friendly zone required more work, however. Like most youngsters, the

KID-SAFE
LOFT SPACE

KID-SCALED
STAIRS TO THE
UPPER LEVEL

HOLE AND
FIREMAN'S POLE
PROVIDE A QUICK
RIDE DOWN.

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KITCHEN

Mausser boys have a ton of toys, and Kevin came up with a simple storage solution: Convert knee-wall space at the base of the room's sloped walls into cabinets. To do that, he purchased just the face frames and doors of kitchen cabinets (not the boxes behind the doors/face frames), and mounted the face frames to the walls and floor. (See photo at *right*.) Doing that quickly created a lot of storage. A HearthSong platform swing (hearthsong.com) was suspended from the ceiling, and then a raised platform with railings, accessible via a short length of stairs, was constructed at one end of the room. "We talked about adding a slide to the platform," Kim recalls, "but it took up too much floor space. We like an open feel." The solution: Kevin built a hole into the platform and added a chromed pole from poledanzer.com. He laughs about the source: "All I could find locally were galvanized poles!" Finally, the Maussers added a video camera above the TV. "We can watch the boys from any room in the house, without the noise," Kim says. "It works great, especially when friends come over with their kids."

Cabinet face frames and doors, attached to the kneewalls and floor, hide a multitude of kids' stuff.

FLOOR PLAN

A large hole in the framework of the pergola's roof ensures that climbing vines won't someday block the passage of firepit smoke.

Take it outside

Family fun isn't just for the interior spaces of your home. Build an outdoor "room" to take full advantage of your backyard's natural beauty during nice weather. The key is creating a sense of intimacy on what would otherwise be just an open deck or patio area. These two examples show what you need to do:

- **Add a firepit.** It will be the focal point around which family and friends gather for good conversation, s'mores, or just a little warmth on chilly evenings.
- **Put a roof on it.** That will give the space a sense of being a true room. Leave an opening for the firepit smoke to escape.
- **Include furniture.** If it includes comfy cushions, then all the better!

If your skills or budget allow it, try to mimic a few elements of your home's exterior, such as roof pitch, color, or trim style, in the design of an outdoor pergola.

Imaginative Treehouse

When a massive oak tree takes a turn for the worse, it's not the end, but rather, the beginning for something extraordinary.

Mark and Anne Pederson appreciated the shade provided by an old oak tree that towered over their home until, one day, they noticed the tree was looking sickly and that a split had formed about 15' above the ground where its massive trunk forked. "An arborist came out, looked it over, and told us the split was infested with carpenter ants," Mark recalls. "The tree would soon be dead, and to make matters worse, the half of the tree that looked likely to break off hung over our neighbor's house. We had to take it down pronto!"

A creative play space born of near catastrophe

So that's exactly what they did, though they asked the tree-removal crew to leave standing the bottom 8' of the trunk. "It seemed like a good pedestal for a treehouse for our boys" [a four-year-old and infant at the time], Anne says. "Then, Kevin [McGlothlin of Moab Construction] took a look at it and had the idea of connecting the treehouse to our deck via a bridge. We loved the concept, and a few days later his guys had it completed."

▲ *The top of the sawn tree trunk became a super-solid pedestal for an activity table inside the treehouse.*

Now, when Mark and Anne's friends drop by with their own children for some backyard socializing, the treehouse serves as the hub of kid's activity, just feet from where the adults enjoy themselves on the deck. The treehouse sits on an 11'6"×11'6" platform supported on two 4×14" laminated, pressure-

treated beams secured to the tree trunk and the main deck structure. "We could have put support posts under the corners of the treehouse to take any hint of rocking out of it," Mark says, "but we prefer it open and free of obstructions under the platform."

The trunk extends through the platform to form the base of a kids'-height play table. Cedar shakes, window boxes, a birdhouse, children's furniture, and a brightly colored slide lend the structure a fun and whimsical appearance. "The slide was one of the harder things to locate," Mark says. "We finally found a local supplier of outdoor play structures who was willing to sell just the slide, not the whole structure."

Decorative touches, such as this dirt-simple window planter, give the structure a whimsical, cottage-like look.

Sheltered under the eaves of the treehouse, this birdhouse quickly attracted feathered inhabitants. They don't seem to mind at all the festive lighted lanterns.

▲ An elevated walkway ties the treehouse structurally and aesthetically to the deck off the back of the Pederson's home, providing quick access to kids and adults. The scaled-down width of the walkway, diminutive door, and kid-size furniture tells visitors they are entering a children's realm.

Fire and Ice

This Northwoods clan embraces its wintry wonderland.

When you live in Bemidji, Minnesota, where the average mean annual temperature is 37.3 degrees F and the average annual snowfall totals 41.1", you learn to love cold weather—or at least the activities that come with it. Take for example, Bryan and Kristina Hammitt and their three boys, Trent, Tate, and Tanner, ages 5–15. While they *like* to spend time ice fishing and snowmobiling, they *love* slapping around a hockey puck, as well as the fun, friends, exercise, and good times that come with it. To put hockey front-and-center for their family, Bryan and Kristina built a 65×120' ice rink and a 14×20' timbered warming shack with sauna, just yards from their home. The facility has earned honors as a top backyard rink from the National Hockey League's Minnesota Wild professional hockey team and *Let's Play Hockey* magazine. But the Hammitts weren't thinking about awards when they undertook construction.

"Of course, the kids like to play hockey," Bryan says, "but the rink and shack are really about spending quality time together as a family and building memories, not developing hockey players." Indeed, like his wife and sons, Bryan has an emotional attachment to their facility that transcends what you see on the surface. "When friends and family come out I want them to feel the beauty in the outdoor winter environment," he explains. "Spending time out there is about fostering relationships, developing character, and leaving behind the TV, video games, and daily hustle-bustle. You can't imagine the serenity of being out there, at night, under the lights, with snow falling. I sometimes go skating out there by myself at night just to soak it in." Or, in Kristina's words: "It provides a mini biosphere for the real world. When a problem arises on the rink, the kids learn to deal with it and move on. Excitement, disappointment, persistence, and creativity are in no short supply. It has become a safe place to make mistakes and a wonderful place to learn how to laugh."

From early December through March, the Hammitt family enjoys a hockey rink and sauna-equipped warming shack—right in their front yard!

◄ Dad Bryan and sons Tanner (left) and Tate don jerseys of their favorite team, the Minnesota Wild, for another rousing round of hockey.

WARMING SHACK

Like many things, it started out small

When beginning their family, Bryan and Kristi dreamed of having "a small puddle to skate on," as Kristi puts it. A 40-acre grove of red pine trees in front of their home provided ample space, and the "puddle" quickly turned into one about two-thirds the size of a regulation (85×185') rink. To build it, Bryan removed 250 60-year-old trees and hauled in 10 truckloads of dirt to completely level the relatively flat location.

"After grading the site, I had an incredible piece of luck come my way," Bryan recalls. "A friend saw me working out there, asked what I was up to, and let me know that nearby Bemidji State had just gone to Division I in hockey and was replacing all of its boards [the 4'-tall walls enclosing a hockey rink]. I immediately went down to the campus and got the boards literally hours before they were tossed out. The boards consist of 4×8' sheets of ¾" plywood fronted with ½" acrylic—buying them new would have cost me thousands of dollars! The fact that they came from the school where Kristi and I received our education degrees [he teaches high-school industrial technology and she's a science teacher] makes it even more special."

The rink walls have double doors that accommodate snow-removal and ice-making equipment (more on that later), and a single door for going back-and-forth to the warming shack. Finishing touches also include three parking-lot lights. "Fortunately, we scrounged them through a relative that works at a power company," says Kristi, "and mounted them on telephone poles donated by a friend."

◄ *Much of the Hammitts' free time in the winter revolves around hockey and leisurely skating on the ice rink, as well as family time and social activities in the nearby warming shack. Here they are a few years ago after completing the project.*

MEET THE HAMMITTS

REPURPOSED PARKING-LOT LIGHTS ILLUMINATE THE RINK FOR NIGHT GAMES.

LIKE NHL RINKS, U.S. AND CANADIAN FLAGS FLY OVER THE HAMMITT RINK.

With the rink's infrastructure completed, Bryan awaited cold weather and the long-anticipated opportunity to flood the area with water. "I've honed my ice-making technique over the years—there's a real science to making a good frozen surface," Bryan says. (Learn his proven technique *below*.)

How to affordably make proper skating ice

For fun and safe skating, rink ice needs to be smooth and solid—but getting to that point entails more than simply pouring water on the ground. And if you don't have the budget for a professional-grade ice-resurfacing Zamboni machine like commercial rinks use, you need to substitute equal parts ingenuity and labor. Here's how the Hammitts do it:

1. Wait for the ground to freeze and the first snowfall of a couple inches or more. Then, pack the snow with a sod roller pulled behind an ATV.

2. Sprinkle the snow with a "Hamboni," the term the Hammitts use for their ATV-towed, 450-gallon water tank outfitted with a 6' length of PVC pipe with holes drilled every inch or so for evenly dispensing the water.

3. Pack the now-wet snow with the roller. Repeat Steps 2 and 3 four more times. Bryan creates this sub-surface over two evenings.

4. At this point the frozen-but-rough sub-surface needs to be smoothed, so get out the hose and flood the rink with water every night for about a week. Then, to really smooth and flatten it, flood the rink with one heavy application of water—Bryan orders up a water tanker that can put down 3,000 gallons in about 15 minutes. That final flooding levels the surface with about 1½" of water. By this point, the rink holds about 16,000 gallons of frozen water (not counting the snow) applied over 6–7 days, with a time investment of about 50 hours, to create a 5–6" layer of ice that Bryan can work with over the coming season.

5. Once or twice a week, depending on rink usage, Bryan resurfaces the ice using the Hamboni. This time, to smooth the layer of water, he tows behind the water dispenser a blanket attached to a metal bar to serve as a drag. Though time-consuming, the smooth end result is worth the effort.

Next, a place to come in—out of the cold

Outdoor rinks ideally have a place to warm up and change in and out of skating gear. The Hammitts' first such structure was a modest endeavor: an 8×8' dilapidated ice-fishing shack that Bryan and some buddies cobbled together during their college days. That shack was eventually replaced by a new, 8×13' ice-fishing shanty with benches. And in 2011 Bryan dragged away that shack, designated it for ice fishing, and embarked on his dream of building a log cabin.

"I've always liked the look of cabins made with squared logs, and thought for my first such project those would be easier to work with than round logs. So I stopped by a local sawmill and the owner said he could make every stick of wood I needed," Bryan remembers, "including the 6×6 white pine wall timbers, and the 2×10 deck joists that were pressure-treated at another local facility."

After the winter weather broke, Bryan built the wood deck on top of concrete pads. "It's a 'floating' building," he points out, "so I can move it or even sell it—I've had a few offers!"

After assembling the joists—including a doubled-up rim joist to handle the weight of the log walls—and topping them with ¾" plywood, Brian set about stacking and joining the walls. "I learned all I needed to know online and through books. I also got some helpful advice from suppliers of some of the materials I used, such as chinking (a caulk-like material made specifically for sealing crevices between logs) and stain. I attached the first four courses with screws, which were expensive but allowed me to back them out in the event of a mistake. After that I used spikes to attach each course.

Working without plans, just a good idea of what he wanted, Bryan completed the cabin—with help from family members and friends—in about 400 hours spread over four months. "Building it required only basic tools that I already owned, though I did buy an 8' level to help ensure the walls were absolutely plumb," Bryan says. Once built, he allowed the structure to dry and shrink for one year before chinking log crevices inside and out. Then he applied Cetol Log & Siding stain by Sikkens in golden oak color (perfectwoodstains.com).

The shack's interior includes wall-mounted benches for sitting while lacing up skates, tables, a loft for sleepovers, and a sauna. For quickly warming up the cabin, Bryan outfitted it with an LP-fueled, ceiling-hung heater. But for the sauna he chose a more traditional heat (and steam) source: a wood-fired Kuuma sauna stove made by Lamppa Manufac-

▲ A local sawmill provided all of the white-pine 6×6s used to construct the walls of the warming shack. The softwood is strong, yet light enough that two people can lift the timbers into place during construction.

▲ Applying his existing do-it-yourself skills, along with new, specialized cabin-making knowledge learned online, Bryan built the warming shack over the course of a summer.

turing of Tower, Minnesota (800-358-2049; lamppakuuma.com). "We are in the sauna all the time," Bryan says. "It's a wonderful way to take off the winter chill and get clean—I even take baths in there. Like a shower pan, the wood-grated, rubberized floor channels water to its center where the water drains into the sandy soil beneath the shack."

Bryan's understandably proud of his masterpiece. "I made virtually everything in there except the dust pan," he points out. Do-it-yourself projects include iron hinges and a deer-horn handle on the sauna door, metal silhouettes made on a computer-guided plasma cutter, window shelves salvaged from a sawmill slab pile, iron loft railing, and a curved metal framework with high-strength clear-acrylic panels covering the front window. "That's a $700 window, so I don't want it being hit by a puck," Bryan explains.

▲ *Anyone willing to lend a hand was put to work on the warming shack, including the Hammitt kids. An 8' level proved indispensible for building plumb timber walls.*

Left: *A traditionally framed rafter roof crowns the warming shack.*
Right: *A steel frame outfitted with acrylic panels protects a window from errant pucks.*
Below: *Smoke billowing from the shack's chimney signals that someone is enjoying the sauna.*

Let the games begin

The Hammitts delight in entertaining friends, family, and the occasional drop-in acquaintance. "Our rink surprises us in ways we never anticipated," Kristi says. "With many pairs of hockey and ice skates given to us by friends, we're always able to scrounge up a pair to fit just about anyone that shows up. One day a man and his teenage daughter drove nearly 800 miles from Kalamazoo, Michigan, solely to see our rink! We've met loads of people and had so many great times because of the rink, which started out as some really cold water, but over the years has become warm ice."

See it on video

View a fun music video made by the Hammitts of their rink and warming shack. Go to youtube.com and search for **Backyard Hockey "The Hammitt Rink" 2012.**

Above: A loft in the warming shack provides bunk space for sleepovers. **Below:** The sauna includes a wood-fired stove and all-wood interior, including bench seats and a floor that allows water to collect at a center drain where it channels to the ground below the shack.

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Having Fun in the Summer Sun

Take one look at the palm trees, tiki bar, and azure-blue pool of this backyard and you'd never guess you're just one state away from the Hammitt hockey rink (previous article). Welcome to a tropical retreat—in the frost belt.

When Dean and Connie Ratliff moved to their current home 13 years ago, the backyard was average by Iowa standards: a whole lot of grass with a few trees. But the hilltop plot held lots of potential with its two-plus acres affording a great view of verdant lowlands. So the Ratliffs, who enjoy vacationing in warm-and-sunny destinations whenever they get the chance, went to work, putting a piece of paradise right outside their back door.

An irregular-shaped pool blends naturally into its surroundings. Just beyond it are a stage for live bands and an outbuilding housing pool mechanicals and changing rooms/bathrooms.

First came the pool

The Ratliff's former home had a pool, and it was there that the tradition of "O'Grady Bath Night" originated: Every Wednesday night during the summer, the 10 siblings of Connie (nee O'Grady) and their children might stop by for a swim. Not ones to tamper with family traditions, after moving into their current home, Dean and Connie quickly had another pool installed.

With the O'Grady Bath Night tradition secured, the Ratliffs soon set about enhancing areas surrounding the pool. Next up was a covered patio (shown at *right*) outside the back door and just feet from the pool. "We want the party to go on, rain or shine," Dean explains, "so a roof over the patio was a must." Named after the "Flamingo Café" neon sign that adorns its gable end, the patio area includes a kitchen and seating with tables for about a dozen guests.

▲ A covered patio ensures guests won't have to crowd into the house, even should rain occur on the day of a planned event. A full kitchen cuts down on trips indoors.

▲ Several parrots preside over the tiki bar, including this one who appears poised to pierce the can of his favorite beverage.

Wanting even more weather-shielded entertaining space, Dean and some buddies built a tiki bar with a metal roof adjacent to the pool deck and about 10 paces from the Flamingo Café. Here the theme is more geared to adults, a place where guests can partake of their favorite beverage, engage in spirited banter, or smoke that special stogie.

To enhance the view of the surrounding lowland, and add to the light show that the Ratliff retreat becomes after the sun goes down, a circular fountain was installed at the edge of the nearby hillside. Its eight pumps and six LED lights can be programmed via a com-

A covered and festively lit tiki bar provides another rain-or-shine spot for relaxing near the pool.

The tiki bar's ceiling provides a visual feast of mementoes gathered from near and far. TVs survive inclement winter weather under the roof's protection.

A separate building with men's and women's changing rooms and restrooms keeps wet feet out of the main house.

puter inside the house to spray water and change colors in sync with music playing over speakers spread throughout the backyard.

The most recent addition to this slice of tropics-in-the-Midwest came three years ago when "Joe's Crab Shack" (shown *above* and *right*), an outbuilding about 20 paces from the pool, was constructed to house the pool's mechanical systems as well as his-and-her bathrooms/changing rooms.

You might think all of the improvements to the backyard were part of a master plan, but that's not the case. "We take on a new project whenever the idea comes to us," Dean says. "We meet needs as they arise and fill the space with things we find interesting or humorous—that's about all there is to the planning."

▲ Everywhere you turn, artifacts such as these vintage gas-pump lights, pay phone, perched parrot, and Schwinn cruiser bike, convey one message: "Let's have fun!"

Let the festivities begin

Off to the side of Joe's Crab Shack sits a wood-platform band stage raised about 3' off the ground—a clue that events many times larger than O'Grady Bath Night occasionally take place on these grounds. "Our big blowout is the annual Fourth of July party," Connie says. "We get 500–600 people—most of whom we know!" The Ratliffs stage the event with the help of friends Steve O'Neill and Ed Leazenby, who has expertise in fireworks and a license to purchase and remotely fire professional-grade pyrotechnics. He puts on a show that lasts nearly an hour and rivals any community-sponsored display. A semi-sized water tanker sits at the ready in case of a grass fire.

"It's a lot of fun," Dean points out, "but one of our big goals is to let young people know that July 4th is about a lot more than swimming and hot dogs. Before the fireworks start, things go quiet, and we have a two-minute talk by an honored military veteran about the value of freedom and the sacrifices that have been made to attain it."

Other big events have included family graduations and weddings. Even friends have "borrowed" the backyard for weddings and receptions. When one of the biggest bicycle rides in the country recently came through the Ratliffs' town, they entertained and provided camping space to several hundred riders from multiple states.

From the Ratliff's backyard retreat you can find your way to other tropical paradises. Just follow the signs!

Water jets, illuminated by infinitely variable shades of light, can be manually synced to music via a computer. A hillside grassy area just beyond the fountain provides plenty of space to spread out blankets and take in the July 4th fireworks display.

A low-maintenance lot

The Ratliffs are do-it-yourselfers, so you won't find a small army of laborers behind the scenes doing maintenance tasks. "The trees shed a lot of leaves and seed pods, and cleaning those up takes time," Dean admits, "but the shade they provide is wonderful. All in all, it's really not that much work. When winter comes we cover the pool, take in a few plants, and that's about it."

And those Iowa palm trees? "They're fake," says Connie. "They do just fine in the snow."

When the sun goes down, the Ratliff backyard comes alive with all manner of lights and flaming urns.

A fireworks show that rivals any community-sponsored display requires careful preparation and expertise. The Ratliffs combine resources with friends to entertain hundreds of 4th-of-July onlookers.

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Planned for young kids, but fun for adults, too

Designed to Grow Into

About the time their first child arrived, Jon and Jill Burkhart began to imagine how they could finish their basement to meet the needs of a growing family. Over the course of two years, they worked out a versatile and well-conceived plan that allows the 1,300 square-foot space to change as the family's needs evolve.

Like many with an urge to remodel, the Burkharts started with a few general ideas percolating in their heads. "First and foremost we wanted a fun and safe place for our young children to play," Jon recalls. "And, knowing how kids play changes as they grow, we planned a space that we could change according to those shifting needs—clear into their high-school years. At the same time, we wanted the area to be flexible enough that it could be quickly converted for family celebrations, gatherings centered around televised sports events, and maybe even the occasional pool or poker tournament."

With those goals in mind, Jon turned to floorplanner.com, a free site that enabled him to come up with a detailed, scaled plan much like the one on *page* 33. "It's kind of difficult to use," admits Jon, who in his occupation as a technical sales representative is no stranger to all things computer-related. "But eventually I figured it out and our remodeling contractor [Buckeye Basements, Inc. of central Ohio] was able to follow it while incorporating a few modifications of their own to ensure the space fully met our needs and was up to building codes."

How do you design a basement space that meets the needs of adults and kids, even as the kids grow? And do it on a budget that won't break the bank? Come along and discover how one young family, through thoughtful planning, accomplished all of those objectives.

First came the clean-out

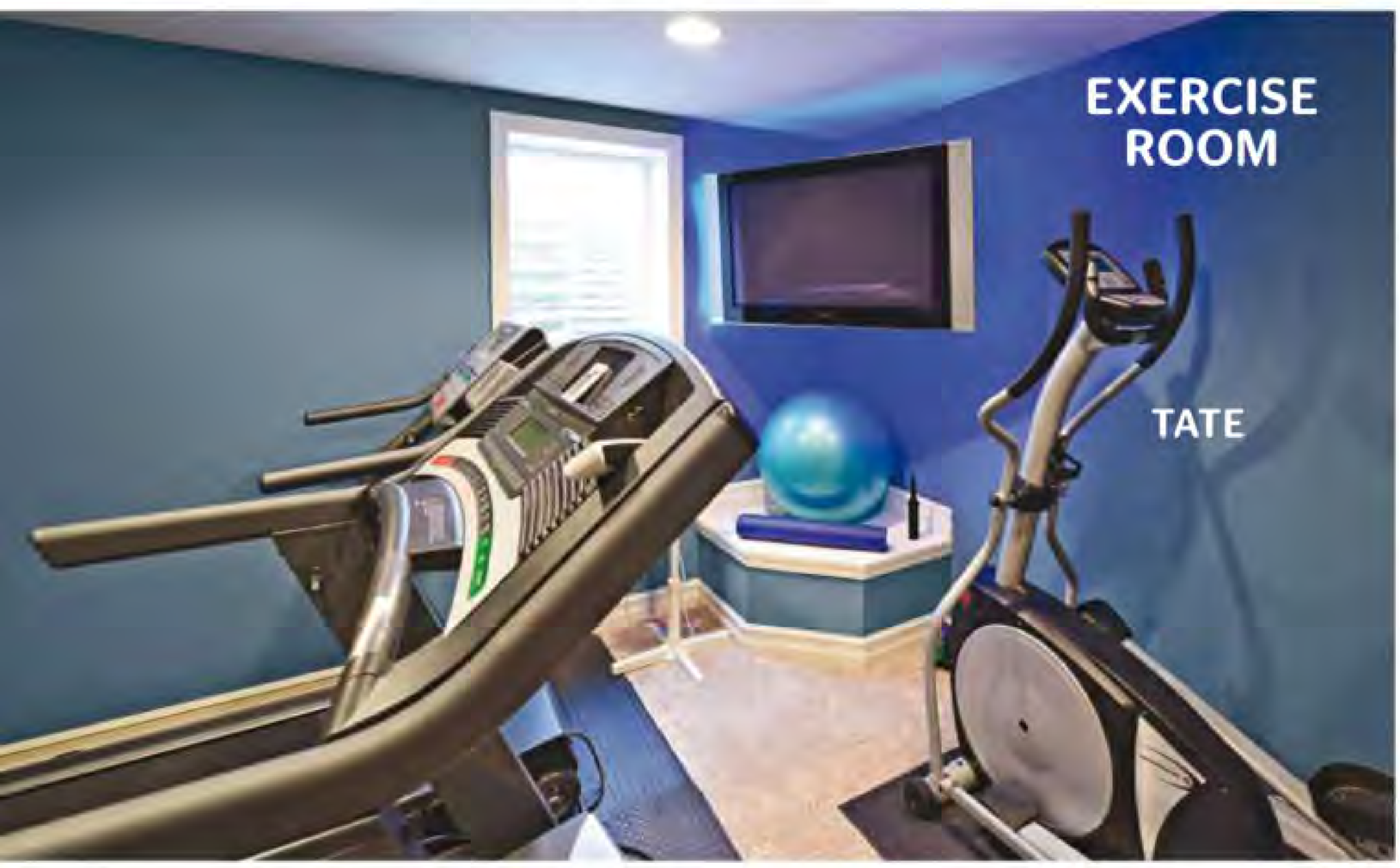
Before construction began, Jon and Jill got rid of 75 percent of the items stored in the basement. "It was just stuff we never used," Jon says. "There was no good reason to keep it, and the remodeling would leave little storage space. We just hold on to less stuff now, mostly seasonal items, such as holiday decorations."

Then the contractor got to work, and one of the first tasks was cutting a hole in a foundation wall so an egress window could be installed. "It was a $3,300 option, but well worth it because now we have the flexibility of converting the exercise room into a bedroom at any time," Jon notes. "It's the one part of the remodel we'll probably get 100 percent return on." (By code, a basement bedroom must have an egress window to aid escape in the event of a fire.) The contractor also framed the walls and roughed-in the electrical power wiring, but turned the installation of electronics wiring over to Jon before applying the drywall.

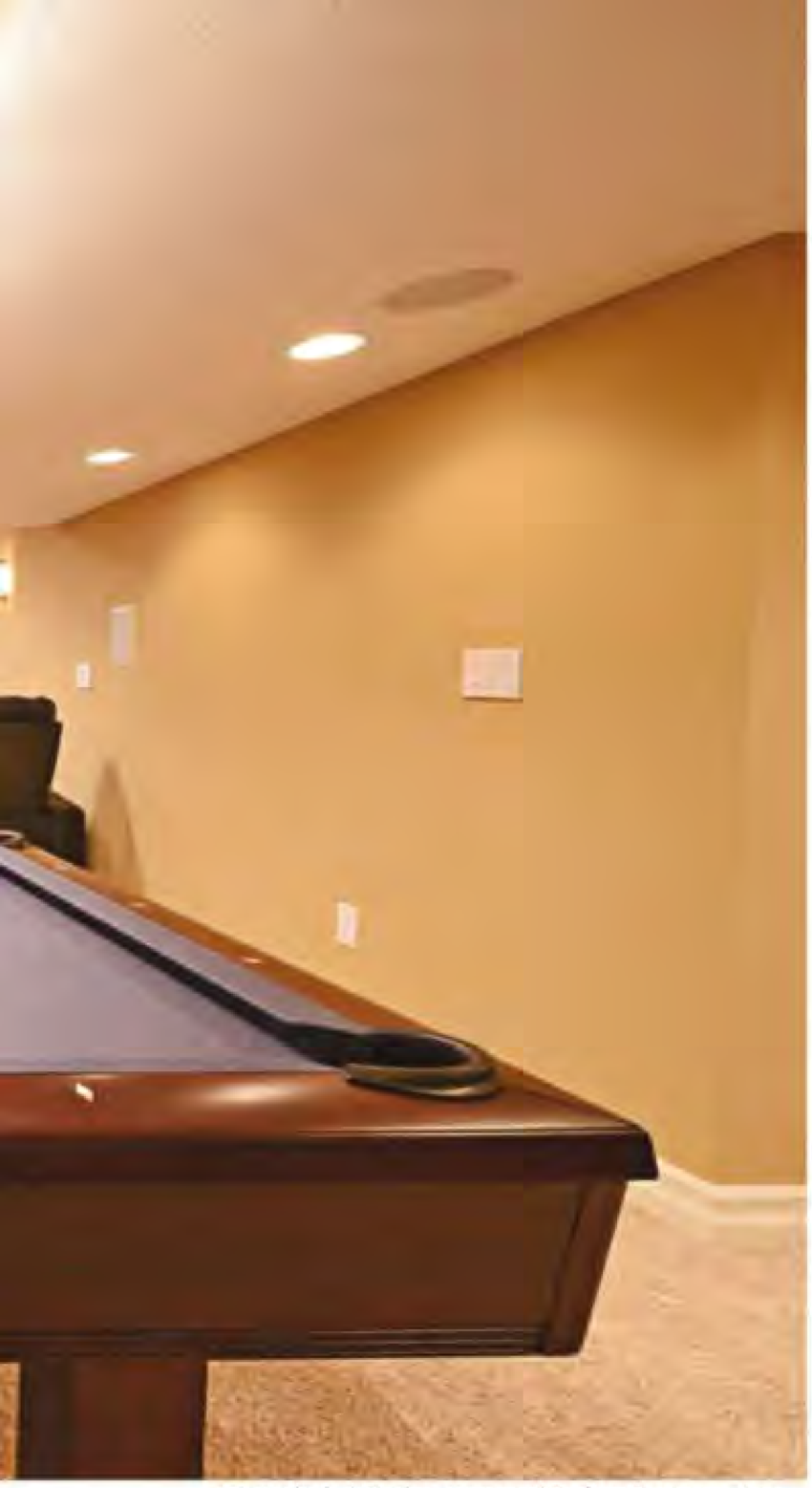
Who says pool-table lighting can't be sophisticated and enhance the overall look of a family fun room?

Fully wired

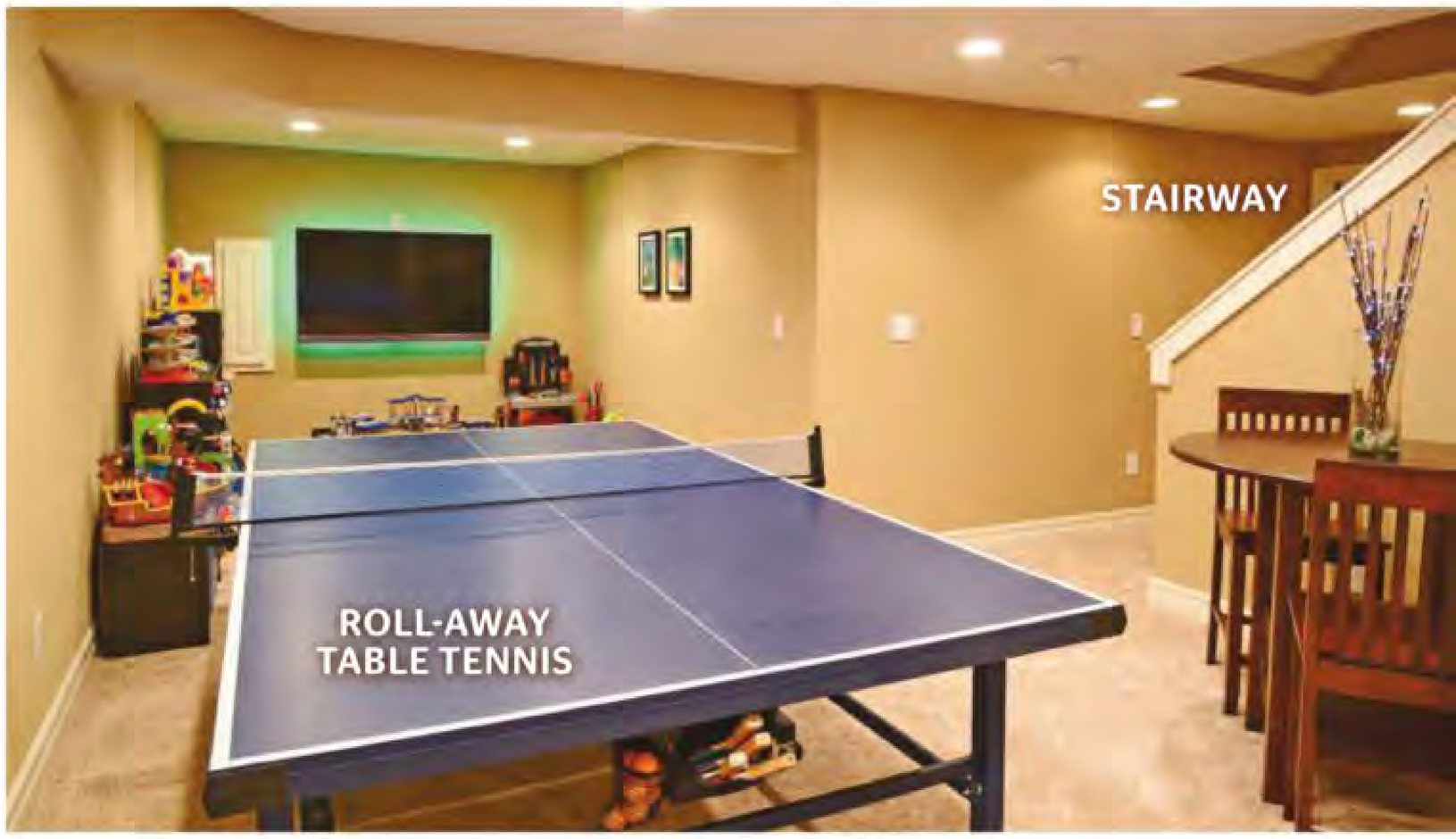
"I understand and enjoy installing electronics," Jon says, "so by doing it myself I saved a few bucks and got things just the way I want them." Because the Burkharts enjoy watching movies and sports events, a ceiling-mounted projector and 110" screen were a must. "We also wanted TVs in the rec-room, exercise, and playroom areas," Jon recalls, "so I ran video cable to all of those locations." For the area near the projector-screen he installed a 7.1 surround-sound system with in-wall speakers. The wiring from the projector, TVs, and speakers comes together in a small closet beside the refrigerator where an A/V receiver; PlayStation 3 for video games and Blu-ray movies; Apple TV for streaming music, pictures, and movies to the projector; Nintendo Wii; and four DirecTV receivers reside. The door to that closet stays closed except when DVDs or games have to be inserted because all of the components are controlled by an RF (radio frequency) remote that doesn't require a line of sight like typical remote controls. Access to the component hook-



◄ *The exercise room can be quickly converted to a bedroom because the Burkharts installed a code-required egress window.*



Photos by Jack Figgins, courtesy of Buckeye Basements, Inc.



▲ *A flexible-use area near the playroom can accommodate tables for playing table tennis or poker, or can be completely cleared for large gatherings.*

ups is easy because the back of the closet is open to the unfinished area behind it.

Jon also installed an Insteon home-automation system (smarthome.com). With it, each light switch is "smart," meaning it's dimmable via the remote control used for the TV. The Burkharts have their choice of four programmed lighting schemes: all on, all off, all dim, and "nightlights" where power is directed to the sconces, kitchenette cabinet lights, and TV backlights—a setting that proves ideal for television viewing. Jon can also use his iPhone or iPad to control the ceiling lights, room temperature, and power to appliances (including the garage door).

After the drywall was installed and painted, Jon added LEDs behind the TVs. "They're remote-controlled, too," he points out, "and can change in color, though we typically use them in just the pleasing blue color to back-light the TV image and relieve eye strain. Blue also complements the built-in blue lighting beneath and in the cup holders of the Palliser theater seats [palliser.com]."

Finally, Jon placed an internet camera made by D-Link (dlink.com) on top of the TV in the playroom area. "The camera was inexpensive—only about $50–$60—and by using an app with a one-time $10 fee we can watch the kids on an iPhone, iPad, or computer located anywhere," Jon says. "There's a two-way audio feature so we can hear what's going on and talk to them, too. With the app we can view what that camera shows or simultaneously get views from their bedrooms, where I placed Foscam cameras that can tilt, pan, and see in the dark [foscam.us]. I paid about $80 each for those."

Color-changeable LED strings behind the TVs and projector screen enhance the viewing experience with full-on room lighting (left), or with the lighting turned down (right).

Fun but flexible features

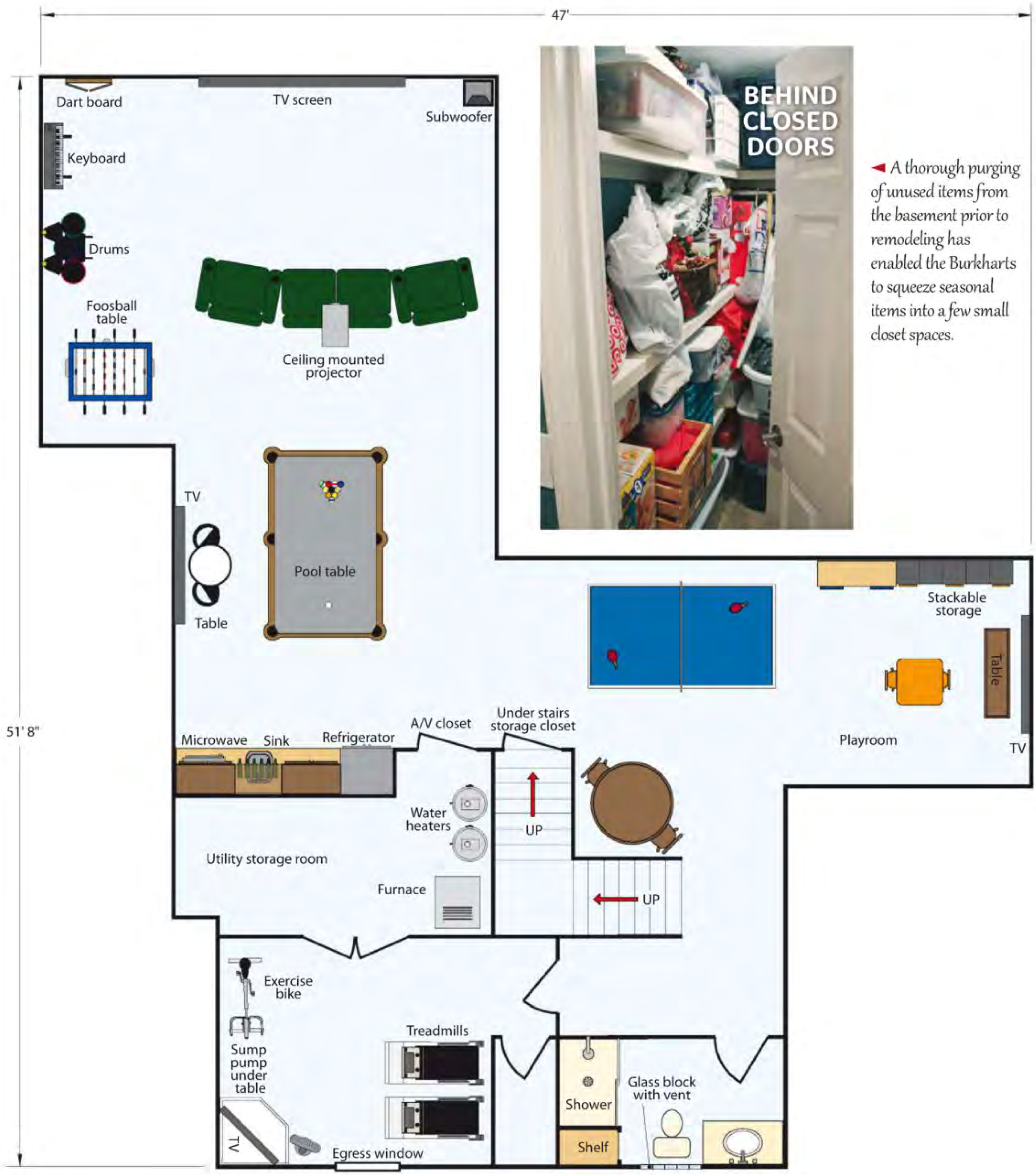
"As much as possible we've tried to minimize the amount of stationary items, such as the pool table, in order to keep the space adaptable to changing needs," Jon says. "For example, we can fold-up the table-tennis table, roll it into the unfinished area, then put a poker table in its place. With the exception of the theater seating, the furniture is light and can go wherever needed. Rather than put a rubberized floor in the exercise room we carpeted that space for easy conversion to a bedroom."

Other fun fixtures that can be packed away in a hurry include a foosball table, slot-car track (set up in front of the projection screen to utilize otherwise-empty floor space as shown *below*), electronic guitars and keyboard, and lightweight plastic toys in the play area. An electronic dartboard is strategically located in a corner where there's no foot traffic to traipse in the path of airborne darts.

One thing you won't find in the Burkhart basement are wall decorations. "We just haven't gotten around to it," Jon admits. "And we're in no hurry since active young kids and artwork don't necessarily mix well!"

▲ Having a full shower in the bathroom enhances home value and goes hand-in-hand with having an exercise room with the potential to convert into a bedroom.

▼ Blue LEDs behind TVs, under the theater seating, and even in the slot-car track, lend soothing illumination throughout the space.

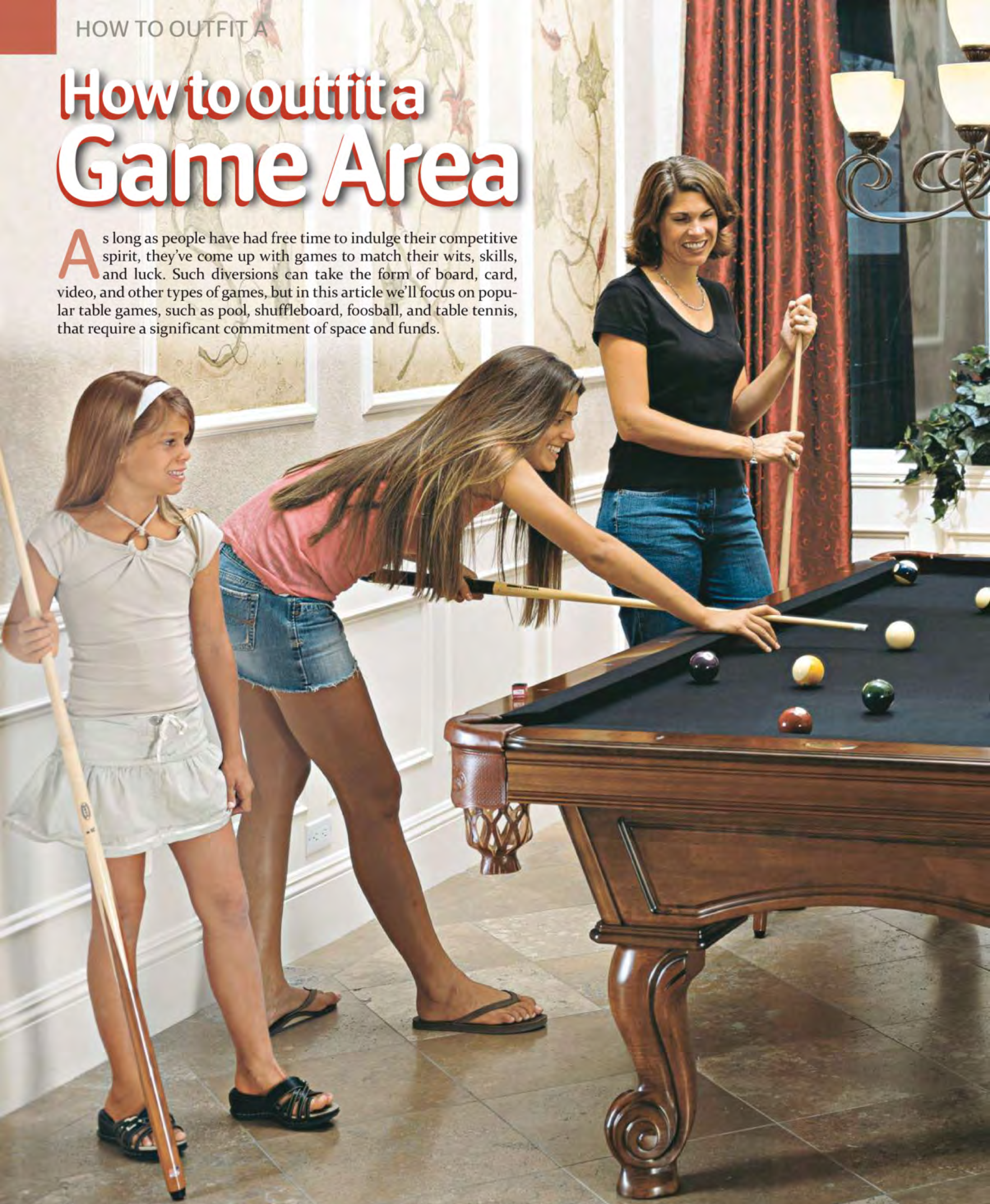


FLOOR PLAN

◄ A thorough purging of unused items from the basement prior to remodeling has enabled the Burkharts to squeeze seasonal items into a few small closet spaces.

How to outfit a Game Area

As long as people have had free time to indulge their competitive spirit, they've come up with games to match their wits, skills, and luck. Such diversions can take the form of board, card, video, and other types of games, but in this article we'll focus on popular table games, such as pool, shuffleboard, foosball, and table tennis, that require a significant commitment of space and funds.



Fun 'n' games: The words just go together. No wonder table games of all types appear in so many family fun rooms. Here's what you need to know before investing.

Photo Courtesy of Olhausen Mfg, Inc.

Pool: The king of fun room frivolity

This classic game has appealed to generations of people for many good reasons: Anyone can play it, but developing advanced skills can take years of practice; pool can be relaxing and competitive at the same time; you can go one-on-one or play as teams; no extraordinary strength or stature is required, just strategy and skill; and a winning player or team can "hold" a table for long stretches, stoking the competitive fires even further.

Of course a good pool table doesn't come cheap ($2,000–$10,000 for better tables), and requires a fair amount of room. Most home tables measure about 8' long, though you can buy 3', 9', 10', and 12' models. So long as its width measures half its length, a pool table is considered to be regulation size. You will need room around the table for stroking a standard-length 57" cue, so add 120" to both the width and length of a table to determine its space requirement. For example, an 8' home table typically measures 88" long and 44" wide; By adding 120" to each dimension it becomes apparent that such a table requires a 13'8"×17'4" space.

Also, keep in mind that pool tables aren't portable. You can't roll them around, and they weigh several hundred pounds. Think long and hard before deciding on its location: Once you place the table it needs to stay put to ensure a flat-and-level playing surface; if it's out-of-true by the thickness of a playing card it won't play right. Moving a pool table is a task best done by a professional—due to the complexity of the leveling process—at a cost of a couple hundred dollars.

Considering the permanence, setup costs, and the importance of the table maintaining absolute flatness and level, it really doesn't make sense to buy a cheap one. Better tables have a three-piece, 1"-thick slate top under the felt; once properly leveled, such a surface will stay that way if left in place. Be aware that if the price of a mass-merchandised table looks too good to be true, it likely has a hardboard or particleboard surface that can't be relied on for good ball roll. Ron Ollerich with Mueller Recreational Prod-

▲ A 100-percent gum-rubber bumper (left) will not harden over time. Lesser-quality bumpers (right) go stiff over the years.

◄ A good pool-table lamp not only looks good—it should cast a broad and diffused light that doesn't leave strong shadows on the table.

▼ If your game area doesn't afford enough room for a regulation pool table, consider a bumper-pool table consuming only a 30×54" space.

ucts of Lincoln, Nebraska, and Clive, Iowa, recommends buying an American-made table, such as an Olhausen (olhausenbilliards.com). "Look for a table with a lifetime warranty on all components except the cloth and pockets [which are subject to normal wear]," Ron advises. "And make sure the dealer will install warranty items free of charge. That's important because bumpers made overseas are typically not 100 percent gum rubber and will harden over time. If you go back to the seller and they hand you a new set of bumpers, what good is that? You likely can't install them yourself, and a pro will charge about $500 to do it."

With good tables available for a couple grand, you may be wondering if spending more money will get you a better table. "An entry-level Olhausen plays just as well as a $10,000 Olhausen," explains Ron. "The extra money buys you aesthetics, such as upgraded sights, rails, drawers for accessories, and fancier woodwork."

And think carefully before you buy a used one. "Don't give 10 cents for a table with hard cushions," Ron warns. "By the time you buy new cushions and pay to have them installed and the table leveled, you'll have invested an additional $700–$900 in that table." To know if the cushion has hardened, simply see if it has "give" when you press with your thumb. Also, play a ball off the cushion—if the ball jumps or dies on impact, take a pass on that table.

Darts: not a game table, but worth considering

For nearly as long as humans have propelled spears and arrows in battle, they have sought a peaceful means of practicing and demonstrating their skill in accurately placing projectiles. Perhaps that explains the enduring appeal of dartboards. Today you can buy soft-tip versions that are safer—on the person that accidentally walks in the path of a dart as well as surrounding walls—than traditional steel-tip darts and boards. Priced at $80 and up for better sets, these machines keep score, come with dozens of different games to play, and verbalize information about scoring and who's up next. The best machines come with AC adapters so you don't have to change batteries. And no matter the machine you choose, count on spending a few extra bucks on new, better-quality darts; the ones that come with the machines are too light and flimsy.

Shuffleboard: Making a comeback

Once just a tavern game played on tables over 20' long, shuffleboard is being embraced by homeowners for many of the same reasons that pool has maintained its popularity. Nowadays, though, you can buy shuffleboard tables in 9', 12', 14', 16', 18', 20', and 22' lengths to fit nearly any game area. Plan on having at least 3' of standing space at both ends of the table. Before making a purchase, also consider how you will get the table into your fun room. Unlike a three-piece pool-table top, most shuffleboard playing surfaces consist of one solid piece, though some better brands offer two-piece play fields for tighter-access locations.

Like a pool table, it doesn't make sense to invest in a low-cost shuffleboard table because only better ones will retain a playable surface that's level front-to-back and side-to-side. Better tables start at about $3,000. Unlike a pool table, though, a shuffleboard playing surface should be slightly concave side-to-side—by about the thickness of a sheet of paper—to allow a player to "pass" a puck around an opponent's puck. When shopping for a quality shuffleboard table, look for climatic adjusters under the table for setting the concave surface (which can change with temperature and humidity variations). Walk away from any table that doesn't have a solid, hard-maple top at least 1½" thick (3" is best). Hard-maple tops best resist changes in the trueness of the playing surface. The maple should be topped with a polymer resin about ¼" thick with a lifetime warranty to ensure it won't need refinishing. Top-quality American-made shuffleboard tables include:

•Champion
championshuffleboard.com
•Performance Games
performancegamesinc.com
•Hudson
hudsonshuffleboards.com.

◄ *A 1½–3" thick, solid-maple playfield, topped by a ¼"-thick polymer resin, will ensure a lifetime of smooth puck sliding without the hassle or expense of refinishing.*

Air hockey: Do you really want to go there?

Have you ever seen two people play air hockey for more than a few minutes? Neither have we. That's one problem with this game: It just doesn't sustain the interest of participants. Add to that the expense of a good table ($1,500-plus), their large size (most are 7' or 8' long), and the irritating noise they make, and we think your recreational dollars will be better spent on one of the other games covered in this article.

Foosball: Great for the younger set

Do you prefer a game that requires more physicality than pool or shuffleboard—as well as lightning-quick reactions? Foosball offers fast-paced fun for ages 10 and up, and appeals especially to teens and young adults. You can find a lot of low-cost, $300–$400 foosball tables on the market, but take a good look before you leap at purchasing one. "If a single person can move it, then it will never stand up to teenagers," cautions Ron Ollerich. "The same goes for any game that claims to be "2-in-1" or "3-in-1" [meaning it offers more than one type of game]."

To find a foosball table that will play well, last for years, and retain resale value, start by inspecting the legs: They should be solid and securely attached to the cabinet so they can't loosen and sway over time. At the bottoms of the legs look for well-made levelers so you don't have to constantly replace playing cards or other shims under the legs.

Next, knock firmly on its playing surface with your knuckles, as shown at *right*. It should be rock-solid and absolutely flat. Play the table and make sure there are no "dead spots" in the playing surface where the ball can rest without a player reaching it. Then, stop the ball with various players: The ball should stay put and not roll away on its own. The ball return should be on the side (rather than the ends) to facilitate practicing by yourself without having to reach around to the end to retrieve the ball after every goal.

The sidewalls should be thick (1½" is best), rigid, solidly connected to the playing surface and ends, with sturdy rod bushings. Rods should be hollow to avoid user fatigue and facilitate fast arm and wrist movement, but not be susceptible to bending, and include soft rubber bumpers to cushion strikes against the sidewalls. Choose comfortable, wood handles (plastic can get slippery in sweaty hands). The players should be counter-balanced so they hold a horizontal position, not fall back to vertical.

Better foosball tables start at $500. The best tables, branded Tornado and made by Valley-Dynamo (vdlp.com) sell for upwards of $950. If you can find a good buy on a used, coin-operated table in nice condition, snap it up: Commercial tables will take a beating like no home-use product. Just make sure it doesn't need repair or a bevy of new parts.

▼ *The action can get fast, furious, and physical in foosball, so choose a solidly built table that can take abuse. One check: Rap the playing surface with your knuckles—it should be thick, solid, and inflexible.*

Photo courtesy of Audi Media Services

Photo courtesy of Innovative Concepts in Entertainment

If you're a real hockey fan, consider this game

Like foosball, rod hockey requires opponents to maneuver players via rods that go forward and back. Twisting a rod handle positions a miniature hockey player to block the puck, or pass and shoot. Prices range from $50 for lightweight tabletop sets (okay for young kids or occasional use) to $3,000 for arcade-quality, domed units with full electronic scoring, lights, and players custom-painted to resemble NHL or U.S./Canada teams. Super Chexx machines (icechexx.com) set the standard in this category.

Table tennis: For a real workout

Also commonly known by the early trade name of Ping-Pong, this game can provide strenuous fun, and requires good hand-eye coordination, quick leg movement, flexibility, and conditioning. It also requires a fair amount of space. Regulation tables measure 5' wide and 9' long, and players need at least 5' all-around the table for movement.

Unless someone in your family plans to play the game at a serious, competitive level, don't spend a lot of money on a table-tennis table. Decent ones sell for $300, but you may want to spend more for a table that will fold up and roll away, or is built sturdy enough to survive being placed outside, sat upon, or occasionally abused. A ¾"-thick top serves most folks fine, but a 1" top resists warping even better. If you want to practice by yourself, look for one with a playback setup feature that enables you to fold up half of the table at 90° to the other half. Top brands, such as Kettler (kettlerusa.com) or Joola (joolausa.com), sell for $600 and up. If you already own a 7' or 8' pool table, consider buying an easy-to-stow table-tennis conversion top (about $250).

Although absolute table flatness is not as important as with a pool, shuffleboard, or foosball table, it still matters that a table-tennis table be relatively flat. Never buy a warped table (you can check with a long level), and look for sturdy legs (the thicker the metal the better) with multiple connection points and levelers.

Young, old, and in-between can enjoy hours of active fun while fueling competitive fires and honing reactions with a lively table-tennis match.

Pinball: a classic arcade game that still has appeal

Maybe it's the flashing lights; ringing bells; sirens; whistles; the "feel" of a steel ball striking a target, launcher, spinner, or flipper; or the skill required to "nudge" a machine without tilting it, but pinball still offers a sensory experience not matched by any video game. New machines start around $3,000. Used machines can sometimes be found for a few hundred bucks, but be careful not to buy one in need of expensive repair or hard-to-find vintage parts.

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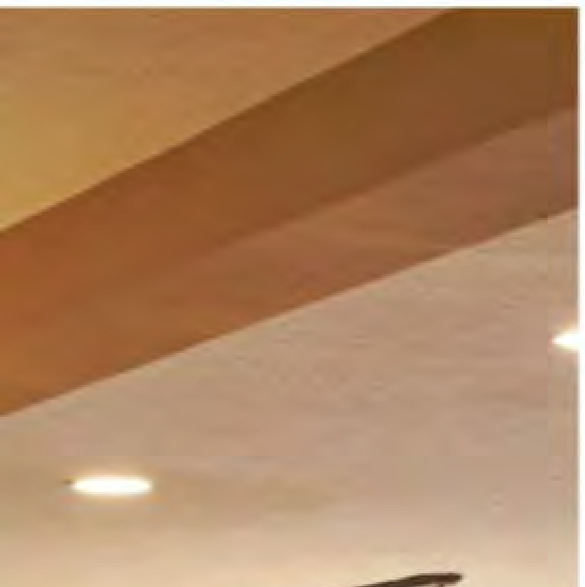
4-Season Fun

Doug and Jana Van Polen like to entertain, and that's putting it mildly. One day it might be their grown children and young grandchildren visiting; another day family, friends, or business associates. No matter the crowd, occasion, or time of year, their multi-use space proves the perfect setting. There's almost always something going on.

Of course, getting to the point where they could host nearly any type of gathering took some doing. Shortly after moving into their home, Doug and Jana saw a lot of potential in their partially finished basement. "There were some bedrooms, two bathrooms, and storage areas down there," Doug recalls, "but we wanted to turn it into a fun place to hang out." So Doug got busy, building a movie room with stadium-style raised seats, projector, surround sound, and big screen. But that was just the start of a long process that would eventually include an in-ground pool, outdoor fireplace, and guesthouse just beyond the basement patio doors

Doug also converted one of the bedrooms into an exercise room. "I lift weights, so I had a rubber floor installed [Everlast Sports Flooring with Nike Grind from Ecore Commercial Flooring; go to ecorecommercialflooring.com/everlast]." The ⅜"-thick material is made of recycled tire rubber mixed with ground-up athletic shoe sole waste in various colors. It comes in 4'-wide rolls that even a DIYer can cut to length and glue down. According to Doug's installer, Sean Wood of The Flooring Guys in Des Moines, Iowa, Everlast costs a bit more than similar products, but his clients prefer it nevertheless. "Its smoother finish makes cleanups easier than with other rubber surfaces," Sean says. The flooring also comes in 1"-thick, 2×2' tiles for super-easy, non-permanent, no-glue installation and extra cushioning.

Geared toward adults, but accommodating to kids, this walkout basement provides indoor and outdoor recreation for all ages and interests.



GUEST
HOUSE

Jana gets a wine bar

To put the final finishing touch on their family fun zone, the Van Polens called in Kevin McGlothlin of Moab Construction. His task: install a functional and aesthetically pleasing wine bar that complements the existing basement space. First, he tied together the area that would become a bar, wine cooler, and wine-tasting room with a stained-concrete floor. (See photo at *right*.) "We applied a thin-set mortar to the concrete floor to give it some texture, then stained the mortar in two colors to look like flowing streams," Kevin explained. "A clear coat makes the surface a breeze to mop up."

Next, he installed one of the space's most eye-grabbing features: a plywood panel outfitted with 341 stainless steel, ¾" rods for holding 163 bottles of red wine. "That much solid stainless steel cut to 7" lengths doesn't come cheap, but we wanted something that would be sturdy and impervious to wear or corrosion," Kevin says. "We could have used stainless tubing, but that would have required plugged ends." To prepare the panel, Kevin drilled each rod hole in perfect alignment and at a 5° angle to prevent any chance of a bottle slipping off. To ensure success he used a straightedge and adjustable-angle drilling jig. "Every hole had to be spot-on, so my co-worker held the jig firmly in place while I plunged the drill," Kevin recalls.

◄ *Stainless-steel rods angled at 5° securely hold 163 red-wine bottles in an attractive display that glimmers with spots of light from overhead illumination. Though pricey, stainless steel will not corrode over time.*

To store white-wine bottles at cooler temperatures (under 50°) than red wine (50–60°), Kevin squeezed a Danby dual-zone wine refrigerator (danby.com) into the space underneath the stairs that lead from the first floor to the basement fun room. A Breezaire cooling system (breezaire.com) in the wall opposite the red-wine wall maintains ideal red wine storage temperature and humidity within the larger enclosure.

A dry-stacked, cultured-stone wall that matches the stone on the front of the bar, enhances the look of the wine cooler.

The case for concrete

Though Kevin McGlothlin of Moab Construction specifies both granite and concrete countertops/bartops in his new-construction and remodeling projects—in about equal numbers—it's the concrete tops that get his creative juices flowing. "Concrete tops with all the bells and whistles cost about twice as much as basic granite because of the extra labor involved," Kevin explains, "and it requires professional resealing every few years, whereas anybody can reseal their own granite. If not for those two things, concrete would take over because it gives almost unlimited design possibilities. It can be tinted nearly any color, and many decorative objects—from metal insignias to shards of glass to fiber optics—can be embedded in it and polished smooth along with the rest of the surface. And it can be made into any shape, with edges as thick as you like, with many possible special features, such as the ones at the Van Polens: a towel bar, a drain board that channels water to the sink, and a natural-stone-looking edge."

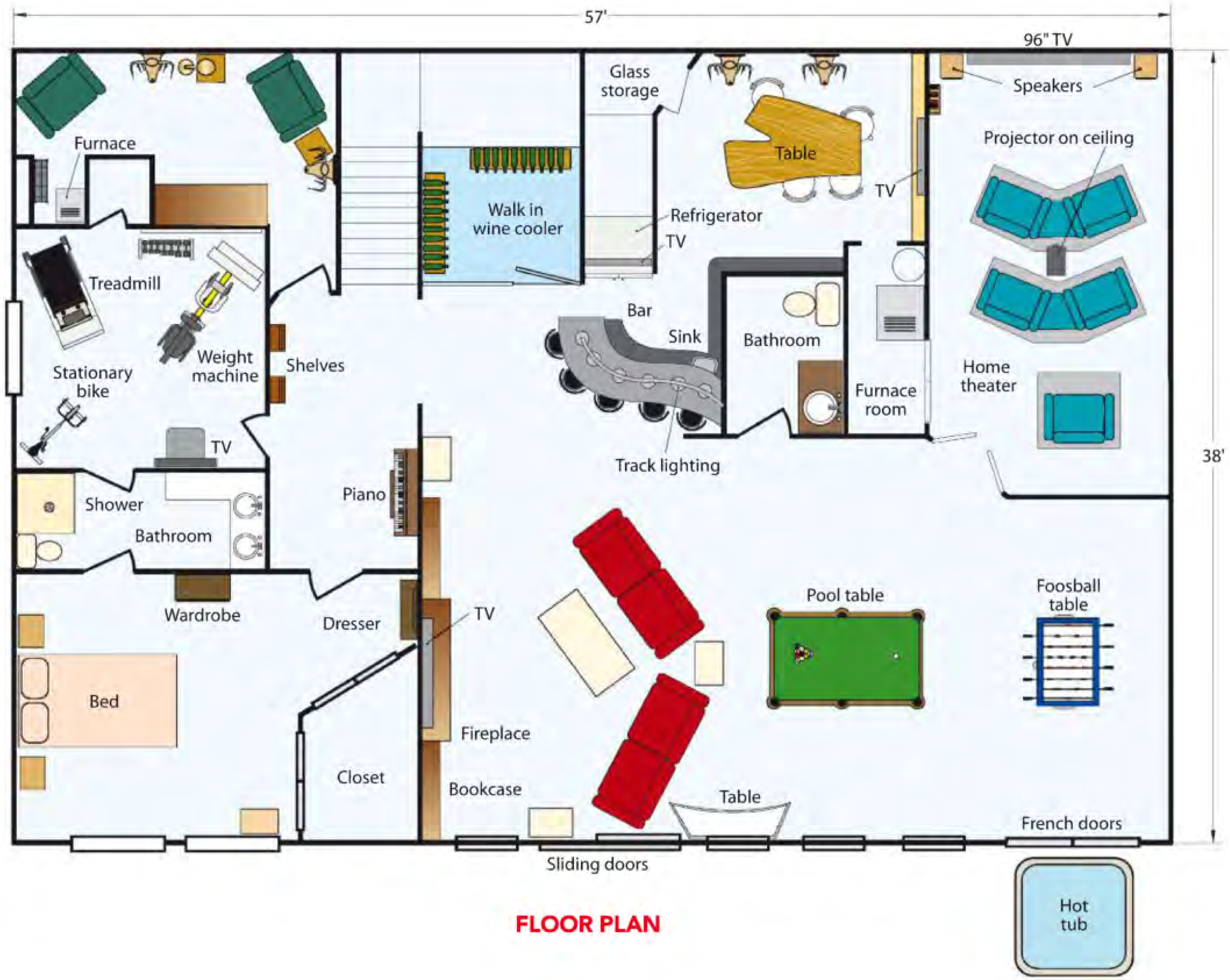
Bottle-holding concrete pillars, as well as a "rock-edge" concrete shelf (*far right*), have embedded fiber-optic lights. "The same company that made the concrete bar top, Speck USA (speckusa.com), made the wine-cooler pillars and shelf," Kevin explains. "They formed up the pillars and shelves with fiber-optic strands that are sheared off at the surface when the form is removed. Those strands lead to three programmable LED lights under the shelf to give the pillar and shelf a 'twinkling star' effect." Additional stainless steel rods, this time ½" diameter and 12" long, embedded in the lower stone wall, become a rack for hanging glasses, *right*.

To enclose the wine cooler, Kevin enlisted the help of a local glass-shower-door installer. "It's a simple way to seal off a space while showcasing what's behind the tempered-glass wall and door," Kevin points out.

▲ *Both the concrete shelf and the pillars that extend from it have embedded fiber-optic strands that transfer tiny spots of light to their surfaces for a twinkling-star effect. The pillars were also formed up with holes for holding wine bottles; the shelf form included a natural-looking edge.*

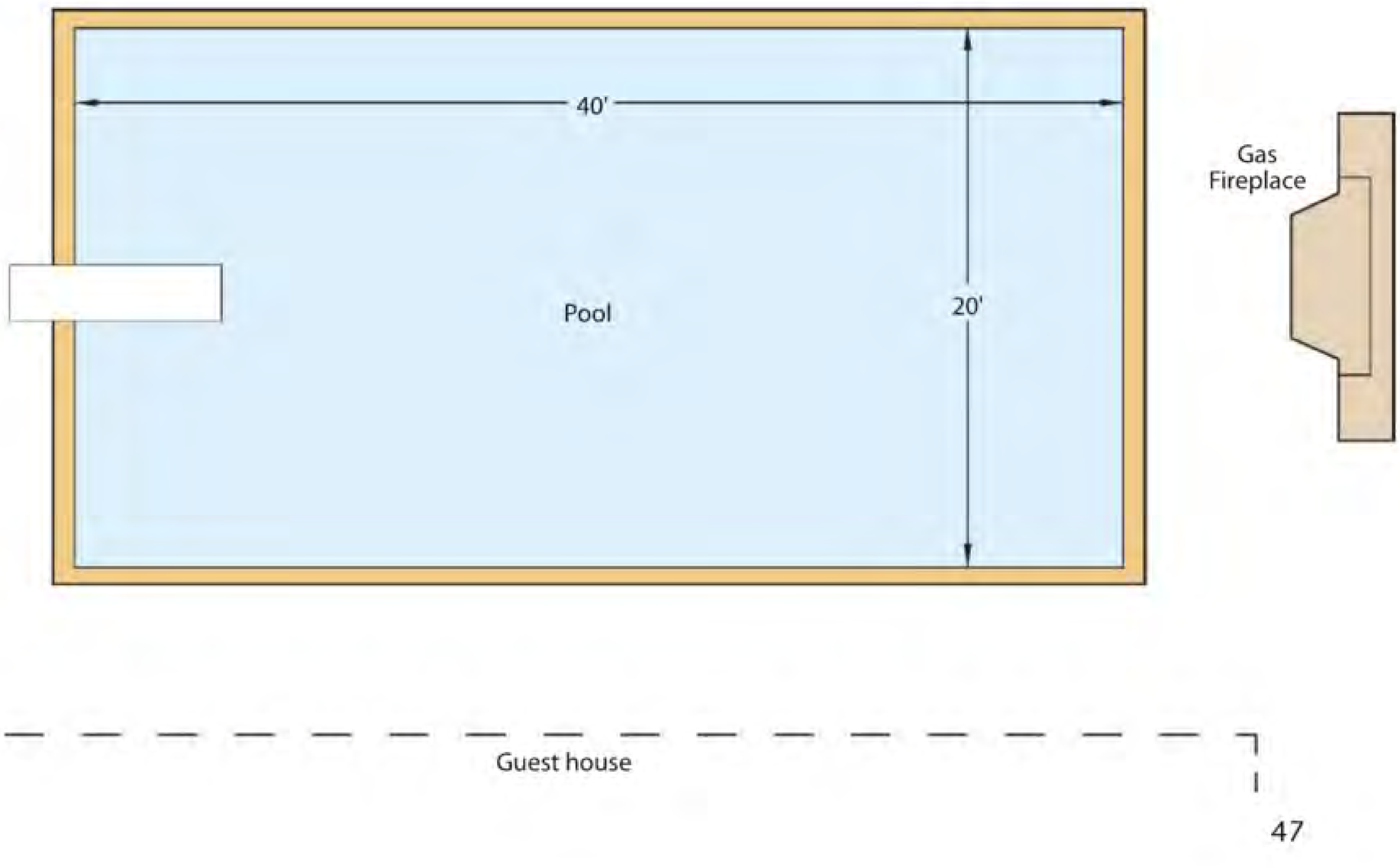
▲ Special touches, such as a carbon-fiber faucet from Kohler, and chrome and polished-concrete surfaces that contrast with rough stone veneer, lend style and sophistication to the wine bar.

▲ One of the first improvements to the family fun space was a home theater with a ceiling-mounted projector and screen. Three rows of reclining seats, each raised 6" from the row in front of it, give everyone a clear view of the movie.



FLOOR PLAN

◄ A working crank raises the table up and down on this reproduction cast-iron base. When not topped by Doug's stuffed badger, this thick, natural-edge walnut slab serves as a gathering point in the wine-tasting area behind the bar.



On to the great outdoors

Outside the walkout basement, the home's backyard slopes downward. To realize their dream of an in-ground pool with guest house, many dump trucks loaded with fill dirt had to squeeze between Van Polen's home and the house next door. "Fortunately, our neighbors liked us," Doug says, "and they still do!"

Now, a 20×40' pool and outdoor fireplace sit between the home's walkout basement and the three-bedroom guest house. "It's a great arrangement for big summer gatherings," Jana says. "We host an annual July 4th party for 70-plus family members, and there's plenty of space to socialize and share meals indoors and out. Plus, overnight guests have their own space and privacy.

"We open the pool as early as possible in the spring and heat it well into the fall to stretch the summer season as long as possible," she adds. "And when the weather's too cold for the pool, we keep the hot tub hot and cook s'mores over the fireplace year-around."

▼ *An open portico connects the main house to the guest house and provides partial shade to sun bathers.*

◄ Covered patio spaces along the main house and guest house ensure the party goes on, come rain or shine. Tall junipers provide privacy and take on a dramatic look when doused with up-lighting after the sun goes down.

How to outfit a Home Gym

Interestingly, family *fun* rooms (at least a portion of them) are often about *work*. Specifically, working out, which some people find fun (or at least invigorating). Whether you consider sweating, panting, and straining to be enjoyable or not, there's no denying the healthful benefits of putting your body in rigorous motion. That's why many of the spaces featured on these pages include home gyms. Before planning an exercise area for your home, here's what you'll need to know to make informed decisions about purchasing fitness equipment.

What to consider when planning a home gym

Before you commit space to a workout area, carefully weigh the benefits of equipping an exercise room versus joining a local gym. Although health-club membership prices vary tremendously, fees of $25–$40 per month are common, and some exercise-equipment-only centers (no pool, tanning beds, saunas, or other amenities) cost as little as $10 per month. Now, consider that for well-made, in-home exercise equipment you'll spend $1,000 or more—that same money would buy you multiple years of club membership. And, by exercising outside your home, you could use that space for something fun or simply practical (storage or a guest bedroom, perhaps). Of course the decision is more than just financial. Keep in mind the considerations listed at the *bottom of this page and the next*.

Get a gym membership if:

- The gym is within 15 minutes of your home or work or conveniently located en route between those two. Studies have shown that you won't use a gym if it's not conveniently situated.
- You have to seriously compromise the size or primary use of your fun space to create an in-home gym. Many home gyms, installed with the best of intentions and equipment, get little use after New Year's fitness and weight resolutions fade away.
- Being around other people motivates you to work out more often, for longer periods, or with greater intensity. Home gyms inevitably have less visual stimulation than public gyms.
- Distractions at home would routinely interrupt your workout.
- You never want to be concerned about repairing a piece of equipment.

Install a home gym if:

- You want privacy. There's no getting around it: A lot of people-watching goes on in health clubs. Some folks enjoy being watched, some don't; which type are you?
- Convenience and time saving are paramount. If you live where it's cold in the winter, freezing temps and snow can be a deterrent to getting to a fitness center. Some people have a health-club membership and use an in-home gym as a fall-back option for times when they're hurried or simply don't want to venture outside.
- You want to be assured of watching a specific TV program while working out. That's often not possible at a public facility where you may be able to find a TV just for your machine, but you won't find a DVR.

Buy the good stuff

Unlike a pool table, which typically gets used only occasionally, fitness equipment should be utilized nearly every day. And it takes a lot of pounding. So it has to be built well. "There are three types of fitness equipment," says Dean Ponder, a long-time personal trainer, fitness-center manager, and owner of Xpressive Fitness in Urbandale, Iowa, who has bought and sold countless pieces of equipment. "At the low end is the inexpensive infomercial stuff—don't waste your money on it. It will cost $100–$200, and won't be worth $10 by the time it breaks or you tire of it. The next step up is department-store equipment. It gets the job done in the short term, but will have to be replaced in a few years and can prove frustrating to use. At the upper end of the spectrum you'll find commercial-grade equipment purchased at fitness-specialty stores—that's where I recommend people shop if they're at all serious about working out."

Bikes provide a great workout if you want to minimize joint stress. Uprights like this one can provide an intense workout, but recumbents (with legs in front instead of under you) have overtaken uprights in popularity because they're more comfortable.

Consider cardio

"To exercise properly you need at least one machine that enables you to sustain an increased heart rate for 20 minutes or longer," Dean says. "Your basic choices are a treadmill ($700–$1,500+), a stationary bike that's either upright or recumbent where you sit with legs horizontal in front of you ($300–$800), or an elliptical machine where you stand upright and use a leg motion that's a cross between walking, biking, skiing, and stair climbing ($800–$2,500). When deciding which one or two of those to buy, get a bike if you spend much of your day on your feet or have problem knees. Recumbent exercise bikes have zoomed past uprights in sales volume because they're more comfortable to sit on.

"Conversely, if you sit during much of the day, or want to simply burn more calories in a shorter time, choose a treadmill or elliptical because they require you to load your body weight on your legs. If you have to choose between those two machines, get an elliptical. It requires less maintenance than a treadmill, and its motion is novel to what your legs are used to doing, so you get a better overall workout with increased calorie burn and less joint stress."

You can save money buying exercise gear on craigslist, but buyer beware

Fitness consultant Dean Ponder has bought and sold a good deal of exercise equipment through the free online classified-ads website craigslist.org, where, he says, many bargains can be had, but you have to be careful not to purchase someone else's junk. He provides these tips for getting a good deal:

1 **Seek quality.** "Wealthy people tend to buy expensive equipment, and when they sell it they often price it low just to get it out of their way," Dean has observed. "That's the gear you want. Conversely, people who buy cheap equipment are often the same people who want too much when reselling it."

2 **Before you meet the seller to check out the equipment, get its brand name, model, and the year of manufacture**. "If the seller can't provide those details because the machine doesn't have a manufacturer's sticker, it's likely a piece of junk. Armed with the machine information, go online and make sure you can get replacement parts. If a piece of equipment breaks, and you can't repair it, you will have a boat anchor on your hands."

Resistance is not futile

"In addition to working your circulatory system, a good exercise regimen tones muscles and builds bone mass through resistance training where you push or pull against a resisting force applied by weights or mechanical devices," Dean explains. "You can choose between free weights (barbells and dumbbells) or machines (often called home gyms when one machine provides several types of resistance motions). A total body workout requires both types. Free weights force you to do the working of balancing the weight instead of the machine doing the balancing for you, and machines provide certain ranges and directions of motion just not possible with free weights."

A good home gym or free-weight set will cost $400–$1,000. If available space or budget constraints require you to choose either free weights or a home gym, but not both, consider the points *below* and *right*.

Buy free weights if:

- You have limited space. You could even skip the barbells and use just compact dumbbells or kettlebells. An excellent choice in dumbbells is the newer adjustable versions (shown *left*) that change in weight by simply turning a knob or adjusting a pin to drop/add weight plates. They're more compact, convenient, and affordable compared to traditional dumbbells with multiple loose plates. Makers include PowerBlock (powerblock.com) and Bowflex (bowflex.com).
- You or someone in the family is training for athletic purposes, where it's essential that the user balance the weight instead of the machine.
- You're willing to take the time to learn proper technique through video or face-to-face instruction. Improper use of free weights can cause injuries.

Buy a home gym machine if:

- You want the fullest range of resistance motion, and not necessarily a grueling workout.
- You don't have the time or inclination to learn free-weight technique.
- Safety and avoiding injury are paramount.

3 Use that product information to find out what sellers in other cities are asking for the same piece of equipment. "What you discover may provide a bargaining chip."

4 Assess the piece of equipment by actually using it. "If it requires electricity and the seller can't supply power to it, or if it's unassembled, take a pass. If a cycle or elliptical trainer squeals or makes other odd sounds, move on. And make sure it fits your stature and feels comfortable in use. Then, go through the electronic functions to ensure those work. On stationary bikes and ellipticals, check that the timer functions and make sure the resistance varies up or down as you work its control."

5 With a treadmill, lift the walking belt and feel the deck below it. "The deck should be smooth—if it's rough, then it and the belt likely need to be replaced, and that's a costly repair that might cost several hundred dollars. Then, assess if it changes speed and elevation smoothly. Also, know that on better machines the motor won't bog down on every step when you walk slow."

His 'n' Her Funland

This couple incorporated favorite things—and places—throughout the design of their in-home retreat.

Steve Reitz and Krissie Slam have experienced great times, and gained lasting memories, during their travels in the U.S. and abroad. So, when it came time to finish their home's basement, they drew inspiration from their best-loved destinations, including the pubs of London and Dublin, as well as the wine cellars of Sonoma County, California. Even their builder, Jon Smith of Buckeye Basements, Inc., of central Ohio, chipped in ideas gained while journeying the Kentucky Bourbon Trail (kybourbontrail.com).

An elegant grapevine motif adorns the custom door separating the bar/kitchenette area from the wine cellar.

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Let's start in Europe, by way of California

"Our main request at the onset of the design process was to achieve a pub-style bar like ones we enjoyed during visits to England and Ireland," Krissie recalls. With that in mind, the bar area includes lots of walnut wood in the front and back bars, chairs, crown molding, and coffered-ceiling beams.

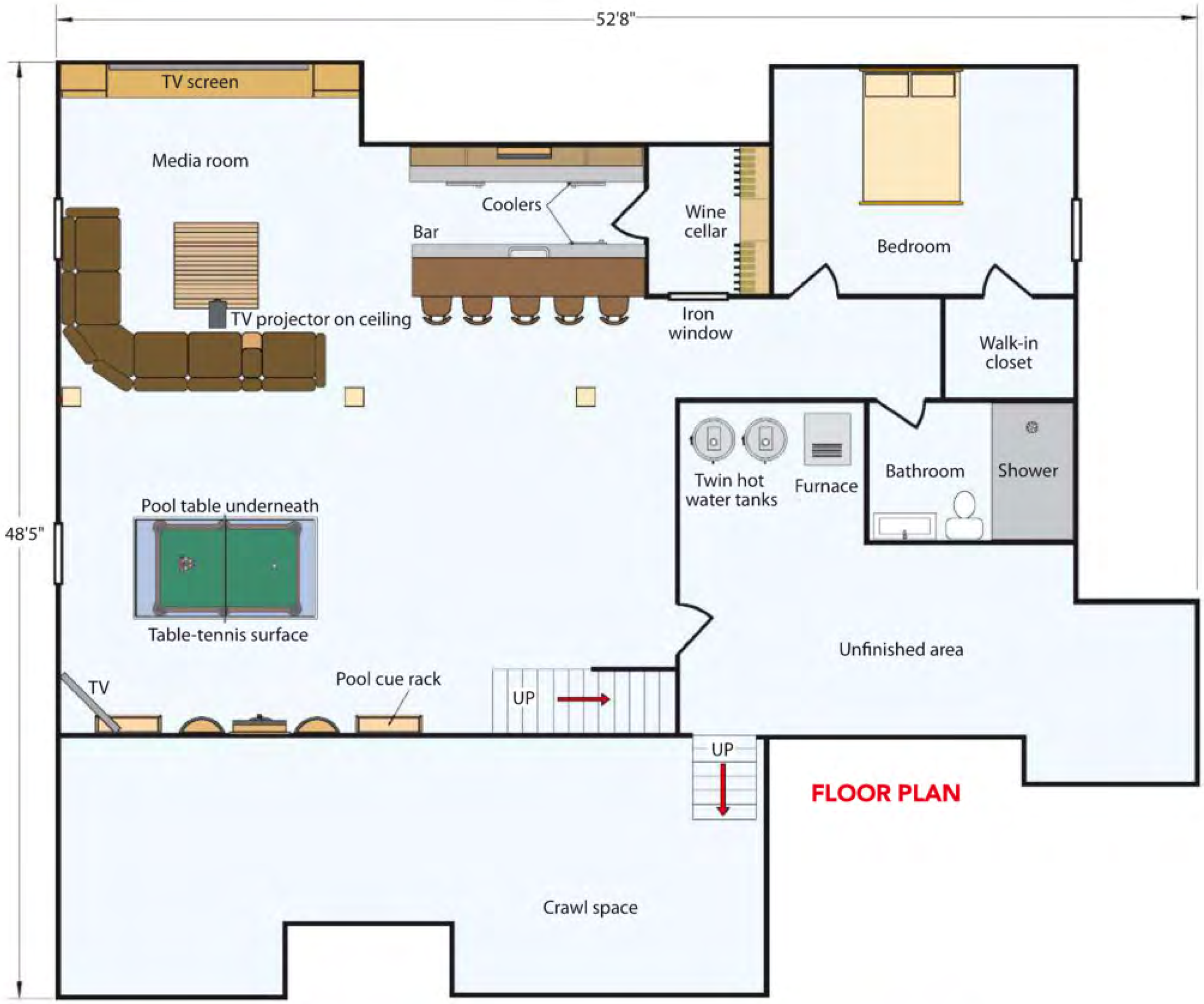
Adjoining the bar is a wine cellar accessible through an arch-topped, iron-grate door with grapevine pattern. "I love to bring back wine finds from Sonoma," says Krissie, "so as we got into the design process a wine cellar was added to the plan. Here, too, we drew on our European travels, asking Jon for a catacomb feel. He came through with an awesome, double barrel-roll ceiling." To enhance the old-world feel of the cellar, the ceiling, as well as the trim around the door and a similar iron-grate window, are lined with a worn-look brick veneer. Likewise, the walls of the cellar—inside and out—are covered with a faux-stone veneer reminiscent of ancient, subterranean vaults.

The arch of the wine-cellar door repeats in the mahogany wine racks and cabinetry shown *above*. The cellar is not temperature controlled because "my wine tastes are not extravagant enough to necessitate temperature control," admits Krissie. Nevertheless, the cabinetry does include a temperature- and humidity-controlled cigar humidor for the sake of Steve and his buddies.

Europe meets Sonoma County in the Reitz-Slam wine cellar. Below the Italian-countryside painting resides a cigar humidor.

The bar includes undercounter refrigerators, dishwasher, and microwave set in walnut cabinets topped with granite for a rich, European pub feel.

A double barrel-roll ceiling in the wine cellar (shown here during construction) contributes mightily to the room's catacomb feel.



FLOOR PLAN

With the fun areas of the remodel in a squarish configuration, guests never have a long walk between bar, entertainment, and pool-table zones, with an easy view of the big screen from most anywhere.

On we go to Kentucky bourbon country

"No element of our basement stirs more conversation than the custom bourbon wall in the game room," says Krissie, "and it was entirely the idea of the builder, Jon Smith. He was actually on the Kentucky Bourbon Trail when the concept struck him. He called us from the Trail and we were immediately sold on the idea."

The completed wall consists of three barrel halves and one barrel end in a field of barrel staves nailed to the wall. The barrel end includes a dispenser that's accessible for reloading through the crawl space in back of the wall. "We really wanted the spaces to flow together, so another barrel end—surrounded by brick matching the wine cellar ceiling—was placed behind the bar," Krissie recounts.

▲ *Every fun room deserves a one-of-a-kind feature inspired by the interests of the homeowners, and this unique wall, made of used whiskey barrels, provides that special touch. But it's not just for looks: The centered barrel end actually dispenses bourbon!*

▼ *The pool table does double-duty with the addition of an easy-to-stash table-tennis top. Custom cabinets on either side of the bourbon wall provide aesthetically pleasing access to cues and other pool gear.*

▲ Cabinets surrounding the projector screen hide A/V gear, speakers, and electronic media.

Every trip ends up back up at home

When not globe-trotting, Steve and Krissie enjoy hosting the occasional party in their newly finished basement—its design has proven cozy enough for gatherings of a few friends, but large enough to accommodate big crowds. More than anything, however, they use the remodeled space for laid-back evenings watching movies with their toy poodle and two miniature American Eskimo dogs beside them. To bring alive their cinema experience they had a 128" Stewart projection screen (stewartfilmscreen.com) installed along with a JVC projector. B&W speakers (bowers-wilkins.com) powered by a Marantz SR5007 amplifier provide 7.2 surround sound to the theater area, and more B&W in-ceiling speakers send sound to the bar and billiards areas. A Sonos wireless system links their home computer, iPad, or other mobile devices to the sound system for directing streamed audio to various zones.

Photos by Jack Figgins, courtesy of Buckeye Basements, Inc.

▲ Natural tones contribute to an informal and comfortable, yet sophisticated, feel throughout the space.

Action Central

Get your game on in this family area built for friendly competition, relaxation, and socializing.

If the family that plays together stays together, then Mike and Julie and their four children should never venture too far apart. From leisurely sitting (video games), to standing (air hockey and table tennis), to starting, stopping, shooting, and slamming (basketball, dodgeball, and volleyball), this family does it all, any time of the year. That's because their fun area includes a 22½×30½' gym with a 20' ceiling, regulation basketball backboard/hoop, and bamboo floor.

The perfect place to sweat it off

With all four of the kids in grade school and active in sports when the home was built five years ago, incorporating a gym into the construction plans was an easy decision. Since then, countless drops of perspiration have accompanied exercise, camaraderie, and entertainment for the participants as well as spectators who can watch the goings-on from a "luxury-box" window located in the open family-room area one level above the gym floor. While allowing a view, the window also effectively blocks most noise, so another group can comfortably watch a movie or converse in the family-room area. "The contractor included sound-deadening insulation in the walls and ceiling of the gym," Mike points out, "so even in the bedroom located directly above the gym it's quiet. You might hear a little noise through the vents."

◄ Basketball, dodgeball, and volleyball are among the favorite games played in the gym. An interior window one level up provides viewing for spectatators in the less-exercise-required area of the family-fun space.

WINDOW TO GYM

KITCHEN BAR

Within the gym, high sound levels generated by bouncing balls, screeching sneakers, and occasional trash-talking can reach ear-piercing levels. "I installed a few acoustic panels on the walls," Mike recalls, "but they don't do much. If we were to build it all again, I'd install more sound-absorbing materials on the walls—it's nearly all hard surfaces in there."

One thing Mike hasn't had to be concerned about, so far, is replacing any of the 4'-long T8 fluorescent tubes in the ceiling light fixtures. "Not a single burn-out or broken tube in the cage-protected fixtures," Mike reports. "Though I'm not sure what I'm going to do if and when I have to replace a tube because I can't get a ladder in there. I'll probably have to rent scaffolding!"

▲ To get to the gym, guests take a left at the spectator window and go down one flight of stairs. The home's sloped lot lent itself to a multi-level setup.

◄ An adjustable-height backboard allows even younger players to get near the rim for layups or the occasional slam-dunk.

Just right for big family gatherings

With Mike's many aunts, uncles, and cousins all living nearby, family gatherings are frequent and well attended; fortunately, the family fun room can accommodate nearly any social occasion. A full kitchen with bar becomes a focal point for conversation, food, and beverages. Roll-around ice-slushy and popcorn machines spread out the dispensing of refreshments and snacks.

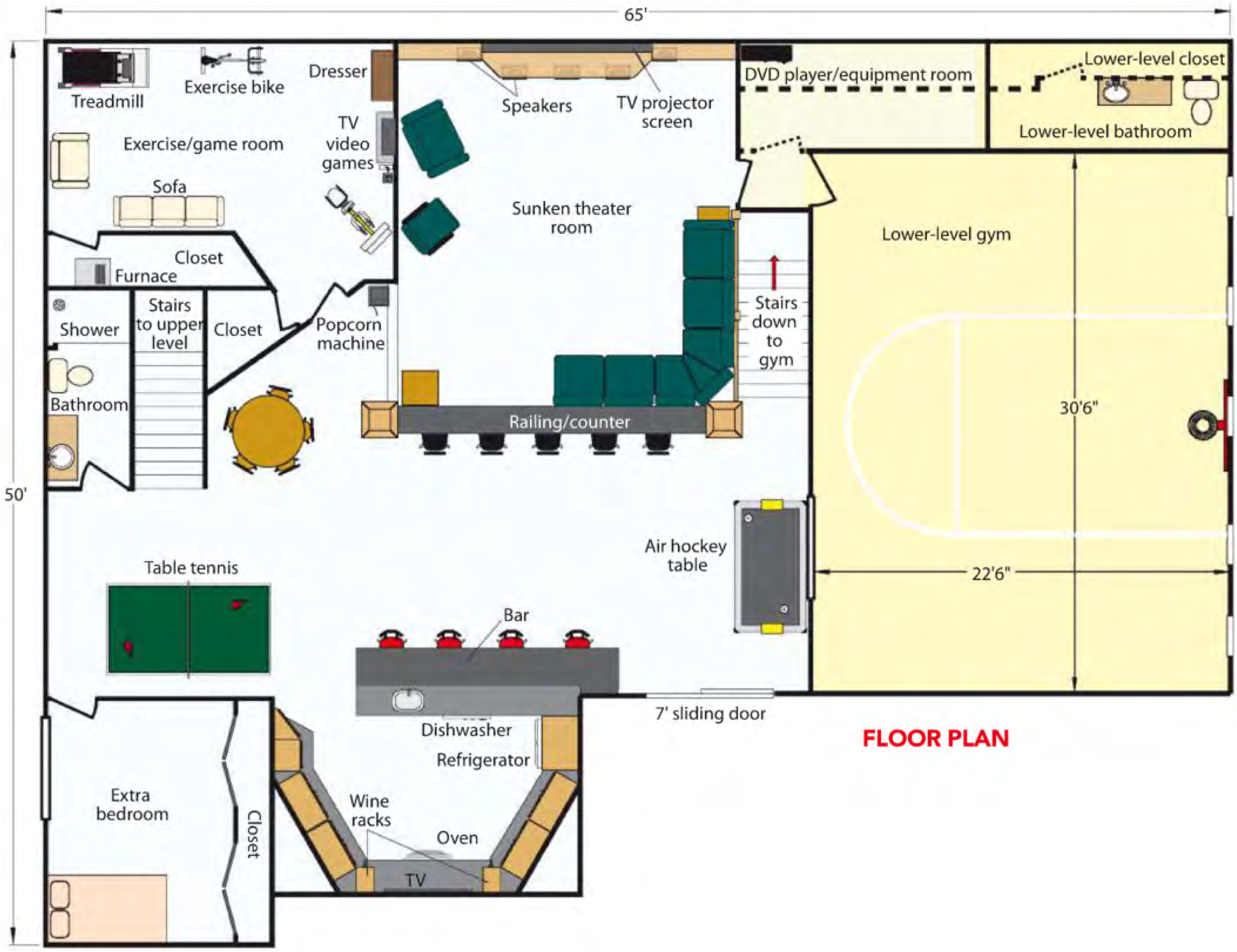
If the kids tire of gym activities, there's no shortage of other things to do: table tennis, air hockey, or video games on a TV in the exercise room or on the 119" projector screen in the theater room.

Theater area: Out in the open, yet separate

Rather than build an enclosed, completely separate room for watching movies, Mike and Julie opted to have the theater area open to the rest of the space. Just a narrow counter-topped railing and two columns separate the theater space from the rest of the family room. That allows viewing of games and other televised events from nearly anywhere in the overall space, and prevents the theater area from having a boxed-in or claustrophobic feel.

Of course a projector TV works best in a dark space, and quite amazingly this theater area stays dark even while lights are blazing in the adjoining areas. To make that possible, the home's designer incorporated several nifty tricks: First, framers sunk the theater-area floor about a foot lower than the rest of the space, making it feel like its own room-within-a-room. The railing and accompanying stools block some light from reaching the theater space, and a soffit directly above the railing blocks light that splashes along the ceiling from can lights in the family area. Dark, satin, hunter-green paint on the walls and ceiling of the theater room absorb much of any light that does find its way into the space.

To save some money, Mike personally installed all of the video and 7.1 surround sound wiring, as well as category 5 and 6 network cable, throughout the house. He ordered the projector and screen from projectorpeople.com. "It went in without a hitch, and works great," he adds. "I like doing that sort of thing myself."



FLOOR PLAN

◄ *No matter the light intensity in the rest of the family space, the projected image in the home-theater area shows great because the builder used several light-reduction strategies, including a light-blocking rail and ceiling soffit, dark paint, and a sunken floor.*

How to outfit a Home Theater

It's an essential feature of a family fun room: an area equipped for watching movies, playing video games, or taking in the big sports event. What used to be considered an exotic home feature has now become commonplace because of the evolution of ever-more-affordable electronics, such as high-definition TVs, video projectors, and surround sound systems. That technology makes possible a movie-theater-like experience without leaving the comfort of your home, and puts you smack dab in the middle of the game whether you're purely watching it or actively directing it with a game controller.

Pinpoint your needs

Before hitting the electronics store, consider how you will primarily use a home audio-video system. Mostly for watching movies? Or TV shows? Or listening to music? Those preferences will steer your equipment choices as explained at the bottom of the next four pages of this article.

Best setup for movies:

You want the biggest screen your room will accommodate. Though you can buy a good-quality 60" high-definition (HD) TV for under $1,500, prices for flat screens larger than that climb quickly to $7,000+ for 90" models. So for a big (90–150") screen go with a ceiling-mounted video projector. According to Randy Traviss, owner of Traviss Audio Video in Des Moines, Iowa, good projector/screen combos start at about $2,000. "You can spend less than that for a projector but you'll likely be disappointed with the image," Randy says. "Just like in a movie theater, a projector requires a dark room—if you can't, or don't want to, watch in a dark room, get a flat-screen TV."

For an experience approximating a movie theater you'll also want a surround sound system. As the name suggests, these setups envelop the listener with sound from multiple directions to give the sense of being in the midst of the scene on the screen. The most popular surround sound system is referred to as 5.1 because it includes five speakers and one subwoofer: Two of the speakers face you from the left and right of the screen, two speakers behind you are similarly positioned left and right, and one center-channel speaker typically sits

Though more affordable than ever, a full-blown audio-video system still represents a sizable investment. Use these tips to get a satisfying experience at a price that fits your budget.

under the screen. A subwoofer can usually be placed in any number of locations. You will also find 7.1 surround systems that include two additional rear speakers for a more seamless and immersive effect, especially in larger rooms. Of course, there's virtually no limit to what's available, with even 9.1, 10.2 and 22.2 offerings; but for most people a 5.1 system will do just fine.

When buying speakers primarily for watching movies, put more of your money into a really good center speaker (that reproduces much of the movie dialogue) and subwoofer (for rumbling bass notes). The front speakers should be placed approximately at ear level—never up high or in the ceiling.

Avoid the temptation to buy a so-called "home theater in a box," a set of speakers, subwoofer, and receiver or Blu-ray disc player packaged together for a price as low as $200 or $300. "We call it "home-theater disappointment in a box," Randy chuckles. "People are lured in by the promise of surround sound at a low price, but the audio quality is terrible. For the same money they would be better off buying a good sound bar or sound projector." (More on those later.)

FAMILY WARMING HUT

What's new in home theater

Most flat screens sold today are referred to as LED (light-emitting diode) sets because they have LEDs that back-light a liquid-crystal display (LCD) panel. You'll also still find flat-screen plasma TVs on today's market—for now. "There's a lot to like about plasma screens, and I still recommend them to customers" Randy points out. "The picture looks good from a wide viewing angle, screen durability is better than with an LED (something to think about if you have young children), and the picture-quality-to-price ratio is outstanding. But they consume more electricity than LED screens (costing perhaps $20 per year to operate versus $10 per year), so by 2015 they will probably disappear from the market." In their place consumers will find a new generation of OLED (organic light-emitting diode) and UHD (ultra high definition) TVs.

OLED screens are the thickness of only two credit cards, yielding a super-sleek TV with great aesthetics. They also yield a picture of plasma-screen-like quality in a curved screen. But they currently cost about $8,000 for a 55" screen, and for that kind of money you can get a UHD screen.

UHD, also referred to as 4K TV because it delivers 4 times as many pixels as HD (about 8 million versus 2 million), provides a breathtaking level of detail. The only way to appreciate it is by seeing one at a retailer. Prices for larger screens are in the five figures, but as electronics inevitably do, UHD price tags are coming down:

◄ For the ultimate in aesthetics, pair a super-thin OLED television with a wall mount that appears to be a picture frame.

Best setup for music:

Most home-theater systems are better suited to producing movie audio than music, but for many folks the same system has to function for both movies and music. In that case, invest in a quality pair of left and right front speakers for good stereo sound. How can you tell if they're good speakers? "You have to listen to them, it's as simple as that," Randy Traviss advises. "Find a retailer that has a room where you can listen and compare speakers free of other noises. Generally speaking, larger and heavier speakers will outperform smaller and lighter speakers, but well-made small speakers can deliver better sound than cheaply made big speakers. It's all about the quality of the materials built into the speaker."

If music is really your thing, consider building a two-channel (stereo) home theater. Then pick a pair of full-range tower speakers for the ultimate in music reproduction. The movies will sound fine, but you won't get true surround sound or reverberating bass.

This year LG, for example, offers a 49" model for $1,500. Though no programs are currently broadcast in UHD, it's just a matter of time before everything from network programming to streaming content to movies on disc are optimized for the format. "That will take about 3–5 years," Randy estimates. "But even still, anything you watch today will look better on a UHD screen than an HD screen."

If you would like easy access to online sites and streaming movies from your TV, consider a smart TV. Like smart phones, smart TVs have a greater focus on integrating online features into the set, with less emphasis on traditional broadcast media. These TVs include remote controls that operate more like a computer mouse than a traditional remote, make it easy to view multiple screens, and have apps for such things as checking the weather and sports scores or playing video games.

If aesthetics are high on your list of home theater requirements, and you don't want the many speakers of a typical surround sound system, take a look at today's sound projectors. These look like sound bars, but are a couple inches deeper. Their many small speakers project sound in various directions to give a surround sound effect. "The better ones cost about $800," Randy says, "but they sell well because they sound better than low-cost surround-sound systems, and people like the clean look."

Before making an A-V buying decision, check out the equipment in person, and seek the advice of a knowledgeable salesperson. Ask if they have a service department in the event a repair is ever needed.

Get an especially sleek look in wall- and ceiling-mounted speakers by utilizing frameless speaker grills (left).

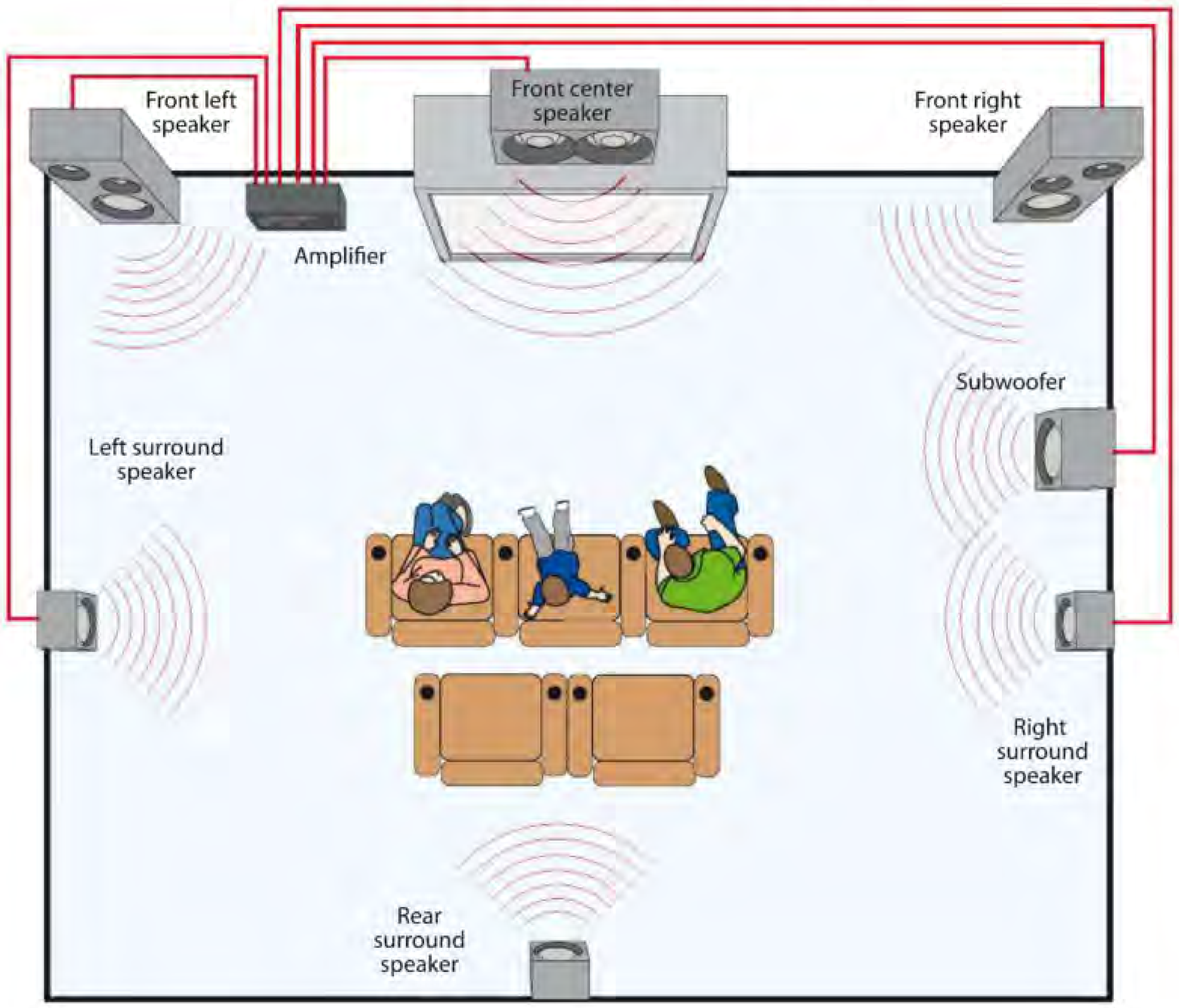
Sound projectors look like sound bars, but can effectively simulate surround sound because their many small speakers aim sound at different areas of a room.

Best setup for everyday TV:
If you primarily watch television shows, and don't have a budget for surround sound or tower speakers, a sound bar will likely meet your needs. This long and narrow box looks like the sound projector shown above but is about half as deep, sits in front of your TV and includes a number of small speakers. "Today's flat-screen TVs just don't have enough depth to accommodate good built-in speakers, so you really need to provide another sound source," Randy recommends. "And better sound bars ($200+) deliver good clear sound."

Sound advice:
No matter what A-V setup you choose, invest in good speakers—they'll likely be with you for a long time. "Electronics, such as TVs and receivers, constantly evolve and seem to leap-frog themselves every five years or so," Randy observes. "But speaker technology doesn't change a great deal, and good speakers will last decades."

▲ *Smart TVs come with remote controls that look—and function—much like computer mouses, with a roller ball and few buttons for easy operation.*

ANATOMY OF A SURROUND-SOUND SYSTEM



5 home-theater myths debunked:

Working in a retail store, Randy Traviss hears certain TV misconceptions regularly. Before you buy into popular TV folklore, check out the facts.

Myth: All TVs are the same.

Fact: "Nothing could be further from the truth," Randy asserts. "Better TVs have a superior picture, include more features, and have more inputs on the back for accessory devices. But the two biggest differences are reliability and ease-of-use. Better TVs last longer and are often easier to fix if something goes wrong because better brands supply parts and have dealers with service departments. A lot of low-dough TVs have remotes with 30 buttons; LG has a remote with 8 buttons [shown *above*]. Which one would you rather operate?"

So which TVs are better? "The best brands—LG, Samsung, Sharp, Sony, and Toshiba, to name some—make the parts that go into their TVs," says Randy. "Brands such as Vizio, Westinghouse, JVC, and RCA, merely assemble parts made by someone else. They don't even sell replacement parts. If one of those brands comes into our service department, we might be able to find the necessary part, but it will come from a supplier other than the manufacturer."

Myth: How far you sit from a TV determines its ideal size.

Fact: "Only two things should affect the size of the TV: the physical space available for it, and how much money you want to spend. Go as big as you can, while maintaining the room's aesthetics, and you won't regret it."

Myth: Plasma TVs have a gas that needs to be replaced.

Fact: "Simply not true. Plasma screens have no gases and are quite reliable."

Myth: The best home theater values are at large chain stores or on the internet.

Fact: "Pricing is so competitive that even the mom-and-pop stores have to offer the same or lower price on mid-tier TVs and sound systems," Randy says. "The key difference is that you can go back to an independent dealer and ask questions of knowledgeable sales people, resolve problems, and find a service department."

Myth: When my TV breaks down the best thing to do is throw it away and get a new one.

Fact: "Most repairs cost $50–$300; well worth it for medium- or higher-priced TVs. Of course, if your TV has outdated technology, say a cathode-ray tube or rear-projection, you're better off recycling it and buying new."

Home Theater Idea Gallery

Looking for a way to make your home theater a little special? Check out what these homeowners did to improve the aesthetics and/or functionality of their entertainment rooms.

Media storage hidden in plain sight

Few of us want our home theater to look like a video-rental store, so it's common practice to stow away DVDs in drawers or behind doors. Bill Holwig of Livonia, Michigan, took the art of media concealment to a whole new level. He built tall DVD drawers disguised as panels separating display shelves and cabinets. Only door knockers suggest that something might hide behind each panel—pull on a knocker and out slides enough storage for hundreds of DVDs.

Subwoofer concealment

Unlike front, center, and rear speakers, subwoofers offer a lot of latitude in where you put them. Place them discretely concealed without negatively impacting their sound.

Built-in cabinet

Unless you desire an interior as modern as the Jetson's, you likely have no reason to leave your home theater's electronic components exposed for the world to see. Instead, hide the hi-tech gizmos in a built-in cabinet that blends with the rest of the room's woodwork or furniture.

Idea Gallery continued

Control your remotes

Game controllers, TV remotes, headphones, and other small electronic devices quickly take on the look of clutter—or get lost altogether—if not carefully corralled. A simple basket, bowl, or other container that blends with your interior will suffice. To ensure items get placed back into it, position the container in plain sight, near where users sit.

Play it up or play it down

It may seem like a contradiction, but a TV screen often looks best when it doesn't show at all, or is framed in some way to accentuate its appearance. An alcove-type frame like the one *above* has the added benefit of hiding the wall-mount mechanism. Cabinet doors, shown *right*, help you forget the TV is even there.

Soft surfaces absorb sound

There's a good reason why movie theaters have walls covered with porous, sound-absorbing materials. Without them, reflected audio signals would greatly diminish a movie's soundtrack. The same holds true for your home theater. You can buy sound-absorbing panels (shown *right*) in many shapes and colors—some even look like artwork—from online suppliers, such as Acoustical Solutions (acousticalsolutions.com). Or, simply hang decorative fabrics or carpets (*below*).

Make the stars come out

It used to be that if you wanted a starry-sky effect in your home theater you (or more likely, a pro) had to poke hundreds of fiber-optic strands through ceiling panels. Now, you can quickly mount and plug in ceiling panels with built-in LED star lights. Choose from 2×2' or 2×4' ceiling panels for an existing drop-ceiling grid, or select even larger and custom sizes. For more information check out cinemashop.com, intersourceco.com, or wiedamark.com.

No Compromises

Thoughtful planning yields a dream fun space.

With a steely determination to get exactly what they wanted—without cutting corners or making sacrifices—this family nets a remodeled basement that meets all of its members' needs.

Leena and Yogesh Khandelwal and their two teenage children had a long wish list of requirements for the conversion of their home's unfinished basement. Those prerequisites developed over the six years they lived in the house prior to starting the project. "We didn't want to rush into it," Leena recalls. "The construction was a big undertaking, and had to be done right." And because the Khandelwals stayed committed to their vision, and kept interviewing contractors until finding one that could envision the remodel as they did, the final result was immensely satisfying for everyone in the family—even the cat!

The check list:

A bright and open feel

"We wanted the space to seem like the rest of the house and not like a dark and gloomy basement," Leena remembers. "That's why orange-yellow tones dominate. And, we included plenty of LED lighting throughout: in the ceilings, of course, but also under the bar [more on that later], behind the bar cabinets, sconces on the home-theater walls, backlighting behind the TVs, and star-like lights in the home-theater ceiling."

To keep things airy, most of the space (dance floor, lounge, and bar) is one open area, with only a single support post. French doors with sidelights bring additional natural light and outdoor scenery into the space. Before installing those, workers excavated earth away from a portion of the foundation where formerly there was just one high, small, transom-like window. Then they cut open the foundation wall to make a large door opening. "Now you can see trees and a water feature through the doors," Leena says. "It's like the view from upstairs."

Nightclub vibe

The Khandelwals like to dance and sing karaoke when entertaining groups of friends or business associates, so hardwood floors were installed throughout the dance floor/lounge area. Sliding, frosted-glass barn doors between the exercise room and dance floor display disco lights visible in both rooms and generated by a ceiling-mounted projector in the exercise room. The brightly colored, upholstered furniture in the lounge area was also inspired by the club scene.

A place for the kids to hang out

"When our kids [ages 14 and 15] have friends over, they will spend time in the basement," Leena says. "They frequently make use of the home theater." The ceiling of that room features surface-mount

◄ A ceiling-mounted disco light in the exercise room casts spots of light onto a frosted-glass door adjoining the dance area. Wall mirrors in the exercise room facilitate practicing dance moves. ▼

◄ Brightly colored lounge furniture and uncluttered walls enhance the space's club feel. A locking wrought-iron door guards a modest wine collection.

fiber-optic panels with many small points of LED lighting to simulate a starry sky. The Astrolite star-ceiling panels, manufactured by InterSource Specialities Co. (intersourceco.com) and professionally installed by Premiere Home Technologies (premiereht.com), come in 2×2' panels for drop ceilings as well as surface-mount panels ranging from 2×2' to 4×4' that can be installed side-by-side to cover large ceilings. Custom sizes, shapes, and curves are also available.

◄ Patterned glass and custom doors open into a home theater replete with reclining, leather-clad seating with fold-out snack trays as well as built-in underlighting and illuminated cup holders.

◄ With all of the lights off except for the TV projector and the star-ceiling panels, you might think you're back at the drive-in theater!

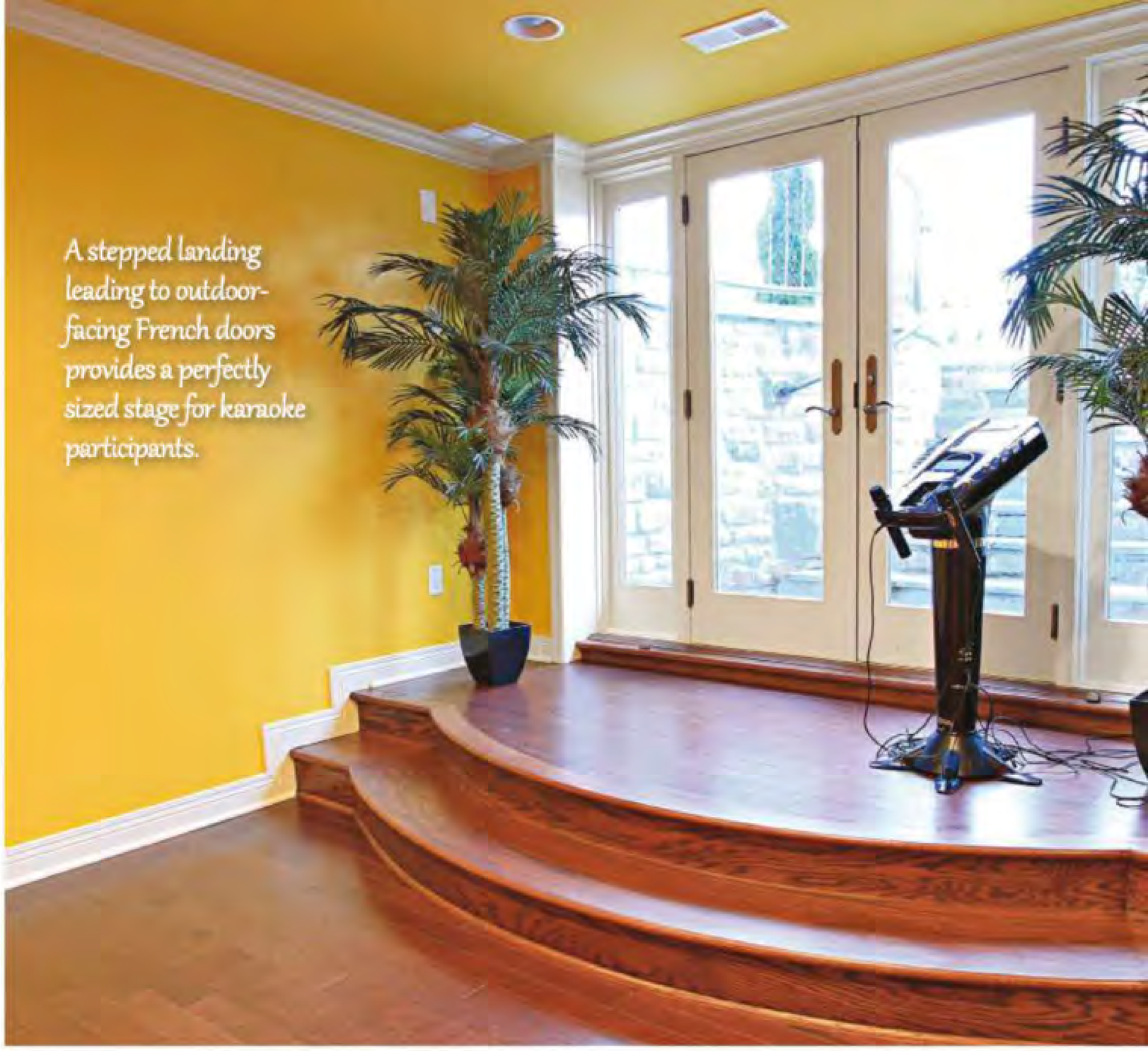
☑ Room to entertain

Like a real nightclub, the Khandelwal basement is a perfect setting for parties and all types of social gatherings. "Every September we have about 60 guests for our company's anniversary party," Leena says. "The landing in front of the French doors serves as a stage for karaoke and for making announcements. During nice weather we've entertained as many as 80–90 guests by opening the French doors and having people outdoors, too."

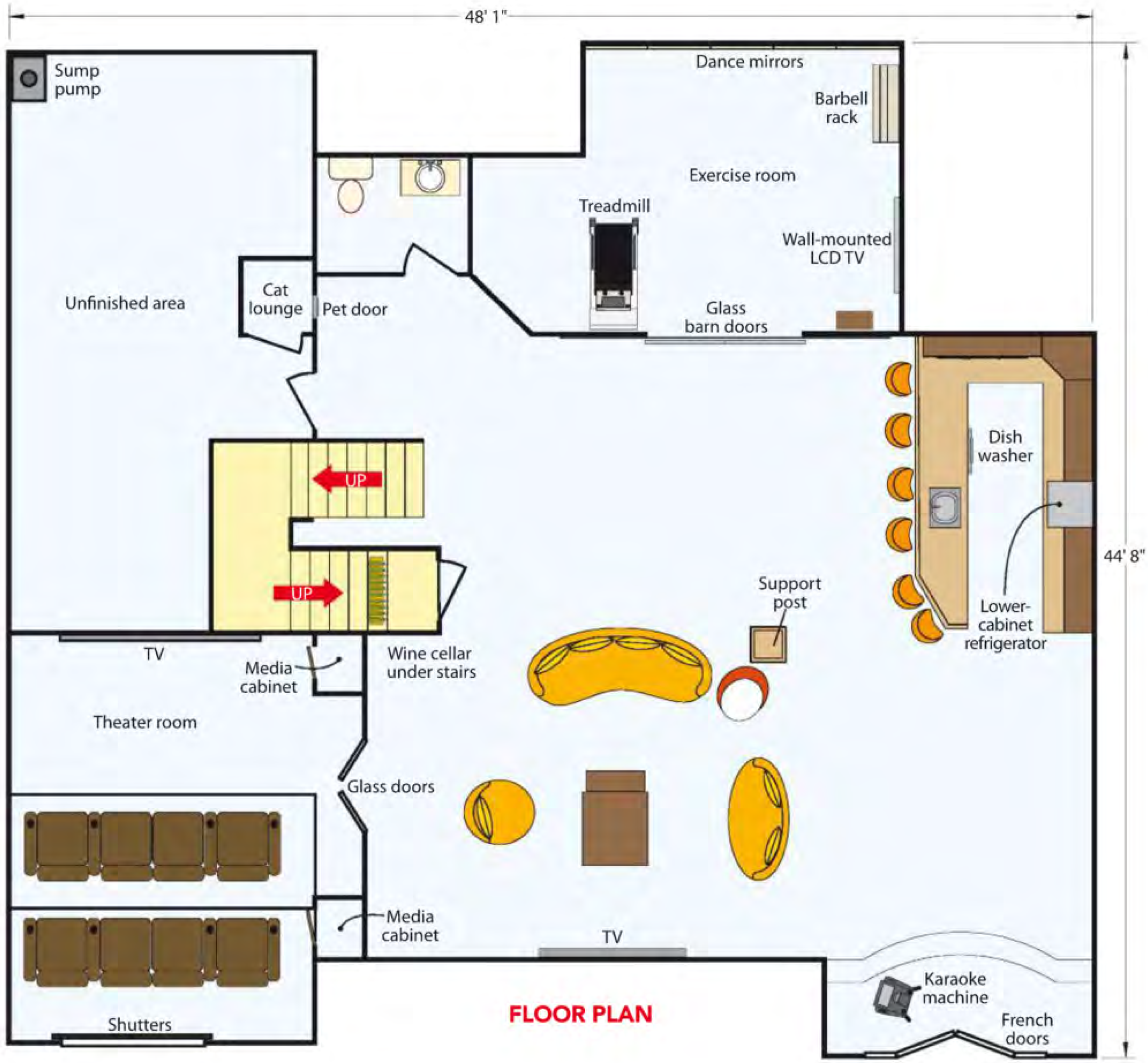
☑ Exercise/Dance-practice space

Because the Khandelwal's 15-year-old daughter dances competitively, she needs an area to practice ballet, jazz, hip-hop, and other routines. So one wall in the exercise room is covered with mirrors, and most of the rubber-mat-covered floor is left clear, with a stationary bike, treadmill, and free weights positioned against the walls and out of the way.

continued on page 78



A stepped landing leading to outdoor-facing French doors provides a perfectly sized stage for karaoke participants.



FLOOR PLAN

◄ Sliding-glass "barn" doors, supported by contemporary hardware, work perfect for separating the exercise room from the dance floor because they don't require space to swing. For more on barn-door hardware see page 79.

Photos by Jack Figgins, courtesy of Buckeye Basements, Inc.

▲ Back-lit panels add dramatic flair to the bar.

Wine cellar

Though modestly sized and tucked under the stairs that lead to the home's first floor, the wine cellar gets noticed because of its wrought-iron, see-through door.

Attention-grabbing bar

"We wanted a truly dramatic bar, and our contractor, Jon Smith with Buckeye Basements [Inc. of central Ohio], came through with the back-lighted Varia Eco-resin translucent panels [3-form.com]," says Leena. Behind the bar is a sink, refrigerator, and dishwasher.

A place for Simba

Though not having a voice in the decision-making process, the family's pet cat, Simba, now has a lounge of his own that he can enter through a cat door. Behind the door: a three-tier climbing tower and litter tray accessible to caregivers through a door from the utility/storage area.

◄ A glass sink sets the tone for a pleasing bathroom vanity.

▲ Even the pet cat gets a space to call his own behind a pet door.

Fresh from the farm and into your family fun room

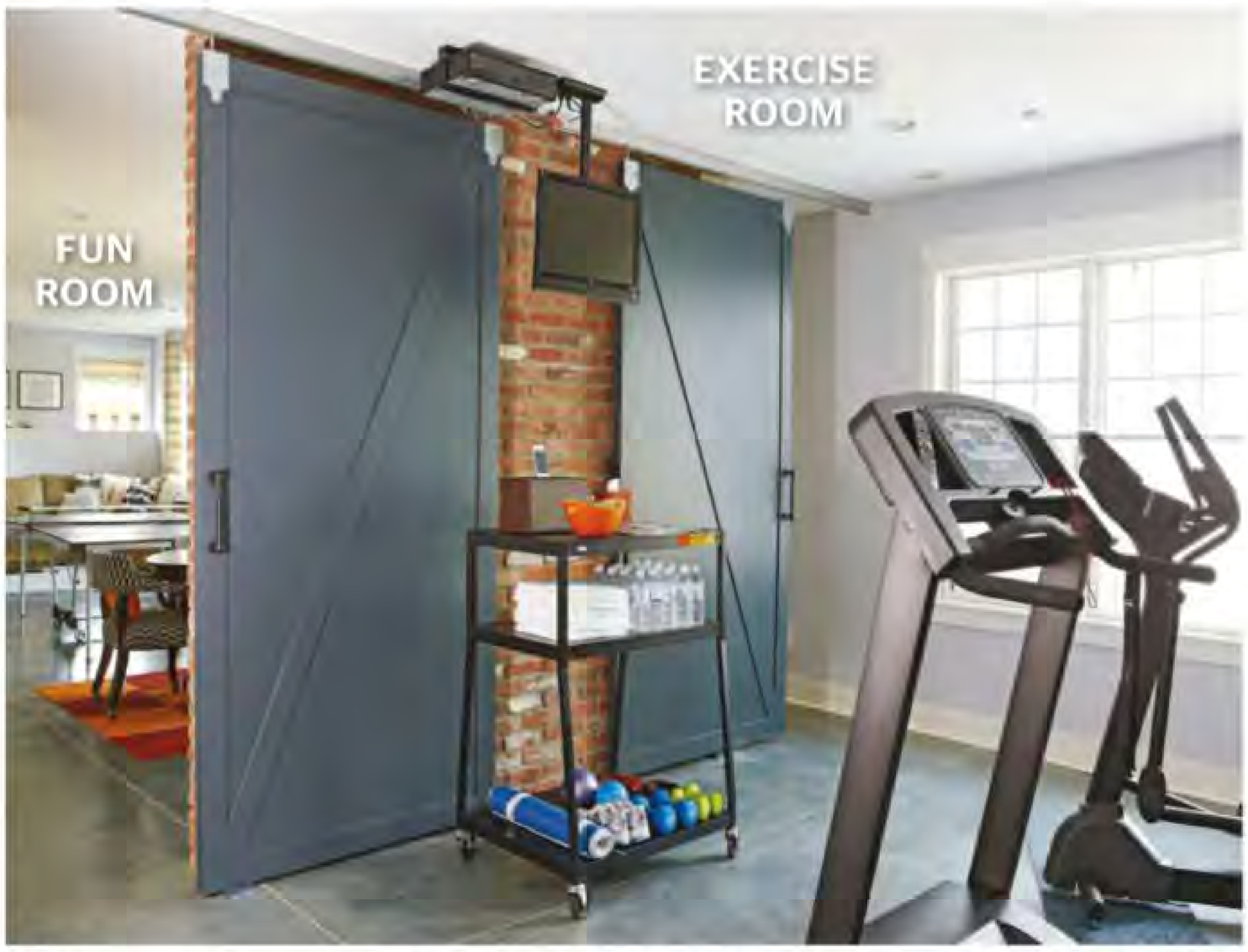
Sliding barn doors

At a time when old wooden barns are disappearing from the countryside, the sliding doors found on them are becoming a hot ticket in new housing and remodeling projects. That's because today's highly styled barn-door hardware, combined with door-panel options ranging from glass to distressed, painted, and natural wood, have turned the venerable barn door into a powerful and functional home-interior design statement. And, barn doors have several common-sense advantages over hinged, swinging doors. Consider:

- ***Open wide***. Sliding doors can easily be two or three times the width of a hinged door, making it easy to move large objects through their openings.
- ***Space savings***. A typical 3'-wide hinged door (swinging in just one direction), consumes a whopping nine square feet of floor space—a slider eats up only a fraction of that amount.
- ***Easy install***. Unless you have advanced carpentry skills, hinged doors (even ones pre-hung in their jambs) can be tricky to install properly. But, if you own a good level, you can likely install barn doors without much difficulty.
- ***Optical illusion***. Because barn doors can be so large, they make small rooms seem bigger when fully opened.

But don't think that barn doors can only be used on doorways. Today, innovative designers are using them to hide big-screen TVs, sometimes installing artwork or tapestries on their exposed side. Sliding doors also work well to cover in-wall medicine chests, especially in tight-space bathrooms.

And if you've ever struggled to push open a rusty, old, actual barn door, forget about all of the effort that required. Today you'll find barn-door hardware with smooth-rolling ball bearings for almost-effortless, squeal-free opening. If you want to take the effort out completely, check out a powered, residential, sliding-door operator (about $500). You can even buy soft-closing hardware to prevent any possibility of pinched fingers or banging doors.



▲ *A large pair of barn doors effectively wall off the sights and sounds of adjoining areas, but when fully open help contribute to a sense of large, open spaces.*

ENTRY-DOOR APPROPRIATE IN MODERATE CLIMATES

GLASS BARN DOORS CONTRIBUTE TO AN "OPEN" FEEL, EVEN WHEN CLOSED.

Of course, big-time design statements don't come cheap. Barn-door hardware costs from $200 to $2,000 for a single door, with higher price tags buying long tracks; higher door-weight capacities; heavy-duty, smooth-rolling wheels; and higher-grade materials, such as stainless steel. And, of course, you still have to purchase or make the door—though you might even be able to salvage one from an old barn!

For more information:
barndoorhardware.com
866-815-8151

CONCEAL A GUEST SPACE OR CLOSET.

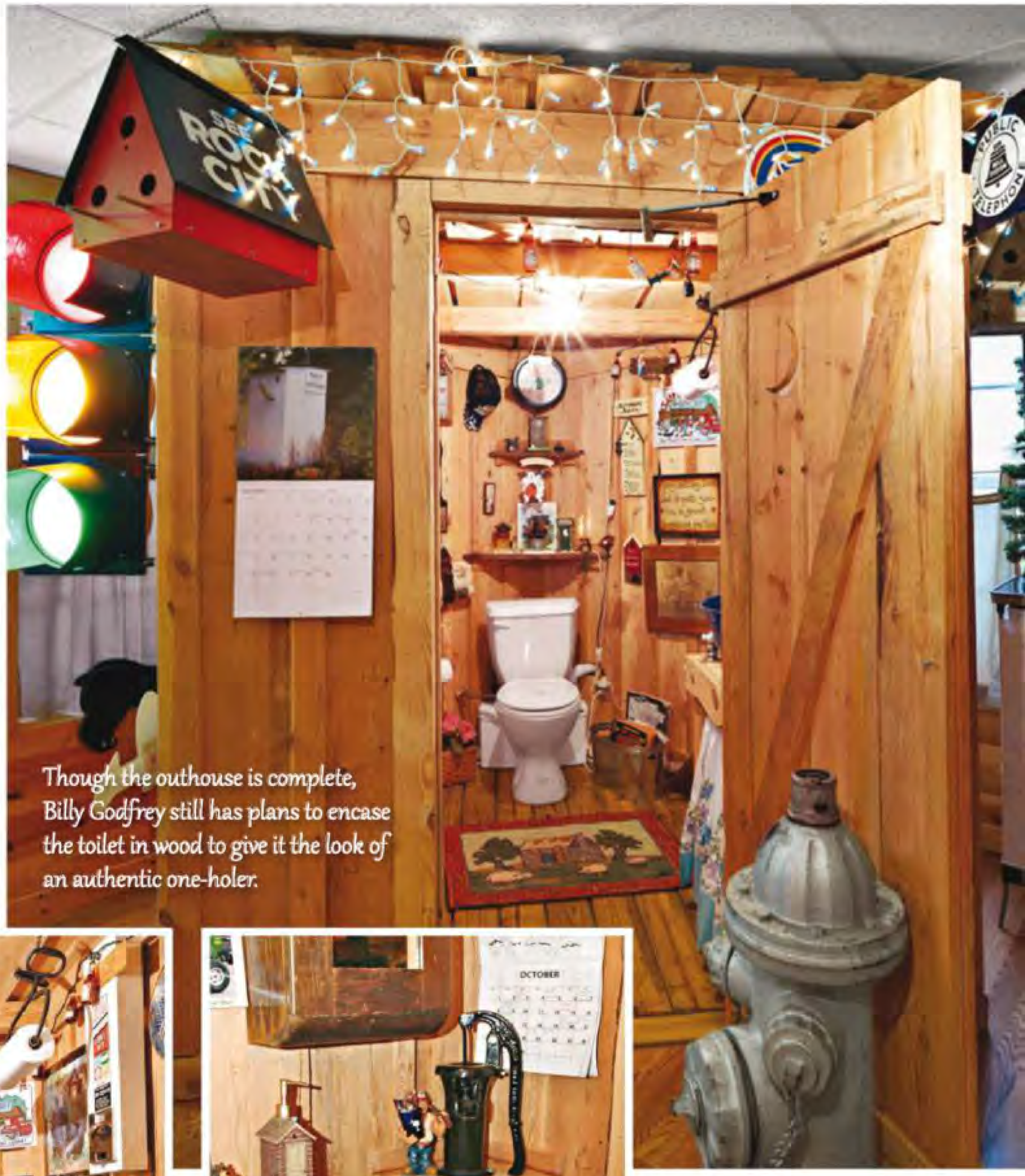
◄ *You'll find a nearly limitless array of barn-door hardware available online, including simple designs in plate steel and cast iron as well as sophisticated mechanisms of stainless steel.*

In-House Outhouse

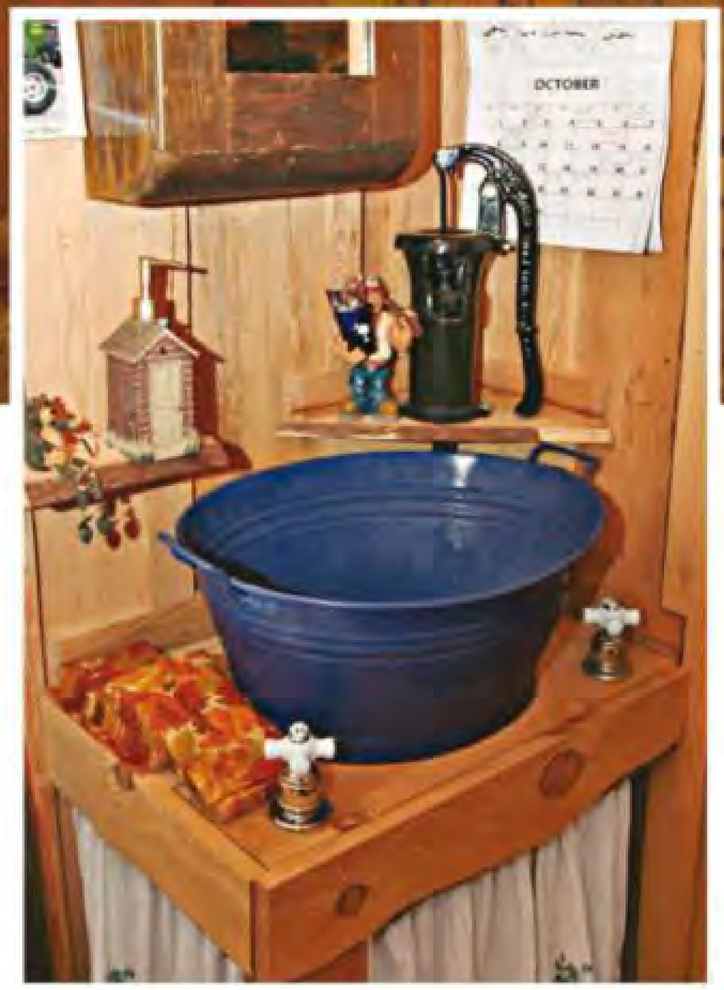
Not content to build an ordinary bathroom in his 850-square-foot, basement fun room, Georgian Billy Godfrey elected to build an outhouse. "I had some buddies over one night, the idea was hatched, and the rest is history," Billy recalls. "My former brother-in-law cut all of the wood on a portable sawmill, and I already had many of the furnishings." The outhouse measures 6' wide by 8' deep, and is set at an angle into a corner to show three sides, lending to its authentic look.

The privy's furnishings include a working toilet, urinal, pay phone, and TV. The sink is a one-of-kind creation that Billy made himself. "The basin is an old washtub that I had powder-coated," he says. "I mounted faucet handles at the front of the tub and ran water lines from those to an old hand pump (shown *below right*). When you turn on the water it comes out the mouth of the pump."

Billy's whole family enjoys the one-holer. "It's not every day you meet and marry a man with an outhouse in his basement," says his wife. Their grandkids consider it "the best outhouse anywhere—indoors or out!"



Though the outhouse is complete, Billy Godfrey still has plans to encase the toilet in wood to give it the look of an authentic one-holer.



◄ Billy made a custom sink from a vintage washtub, hot/cold water-faucet handles, and an old hand water pump that serves as the faucet spout.

Planned for Dad,

But fun for kids, too

It's a party/parking/movie/ workshop/everyday/ game room!

With two teenagers, and a wife who prefers a snow-free car in the morning, Paul Ferrari suspected from the get-go that his man cave was going to have to be more than just a place to work on his 1948 Willys Jeep or hang with his buddies for poker and football games. So he found clever ways to make the 24×32' space meet everyone's needs "for just a few thousand bucks," he proudly says. Paul did it by incorporating versatile, portable, and affordable features, such as a garage door that doubles as a projection screen, a bar that stores a poker table and quickly converts to a work surface, and lightweight patio furniture that stacks for compact storage or can even be put outside. Now, the space converts quickly between uses, as shown on the *following pages*.

Of course, completing the "barage," as Paul affectionately calls it, took a little elbow grease. "I did it all myself, with a few friends helping occasionally," he says. "First, I removed the single garage door closest to the house, installed a 36" entry door in its place, and set up that bay as a bar and a mud room of sorts where the kids could leave dirty shoes, coats, and book bags."

The garage served its previous owners as a place to work on vehicles, and was outfitted with a ceiling-mounted gas heater that still warms the space today. Unfortunately, the walls and ceiling were covered with dirty, unfinished drywall with a lot of holes, and the floor was full of oil stains. "It was nasty," Paul recalls, "so I scrubbed the concrete as clean as possible, and installed a corrugated-tin ceiling and wainscoting. It was left-over material from job sites and didn't cost me a thing!"

The concrete floor remains the one area that Paul would like to improve. Currently, rugs cover various areas depending on the activity. "I'd like to put down an epoxy coating, but haven't found one that will stand up to welding and other abuse. I may do porcelain tile someday."

Can an attached three-car garage fulfill an entire family's free-time needs? That's a question Paul Ferrari answers with an emphatic "yes" after creating a multi-purpose quarters that quickly transforms into any of six distinct configurations and functions.

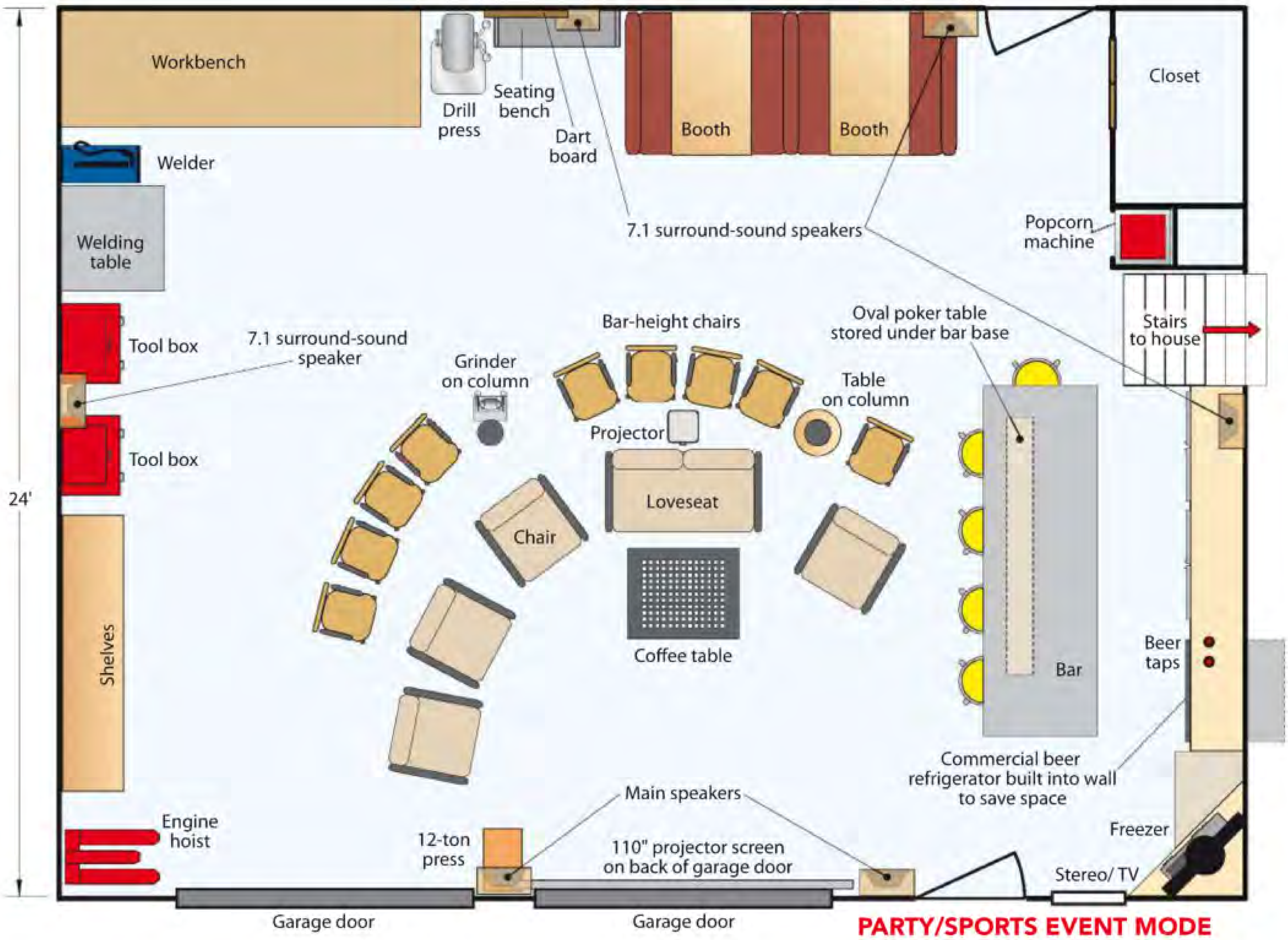
1 room, 6 modes of use

As the saying goes, "If momma ain't happy, ain't nobody happy," and Paul managed to please not only his wife, but also the kids, his friends, and extended family with this garage-to-family room conversion. Everyone enjoys a good party, so for the Super Bowl and other big events, the Jeep goes outside and additional seating goes into place (*below*). At most times, the space exists in *everyday mode, top of next page*, where it functions for working on his Jeep, watching movies and sports events on the garage-door-mounted projection screen, or entertaining a few friends. When a lot of kids drop by, the room quickly converts for movie watching with the addition of more chairs and a large rug (*movie-night mode*). If the kids want some friendly competition, a folding table-tennis table goes into the left bay or they rearrange the chairs for video gaming (*game-room mode*). Or, in that space adults can set up the folding-leg poker table stashed inside the bar.

And when it's just Paul in the garage, working on his Jeep (*workshop mode*), the middle bay becomes an open area for fabrication and assembly; if necessary, he places a hardboard top over the bar to create more work surface.

And last—but certainly not least—momma gets to park her car in the middle bay on cold and snowy nights (*winter-parking mode*), by moving all of the furniture to the open area in front of the Jeep.

BEFORE: Dark and Cluttered



PARTY/SPORTS EVENT MODE

Bargain hunting leaves money in your pocket

"I'm a scrounger," Paul admits, "and am always on the lookout for free-or-low-cost-but-quality materials; I never settle for junk. Living in a major metropolitan area (Boston), gives me exposure to all sorts of things. The front, back, and garage doors were purchased for about 20 percent of retail via craigslist. I snagged the booths from a restaurant tossing them out—they're perfect!"

If you want to outfit your fun space on a shoestring, try these tips from Paul:

1. Use one of the craigslist search engines available free on the web to search more areas quickly.

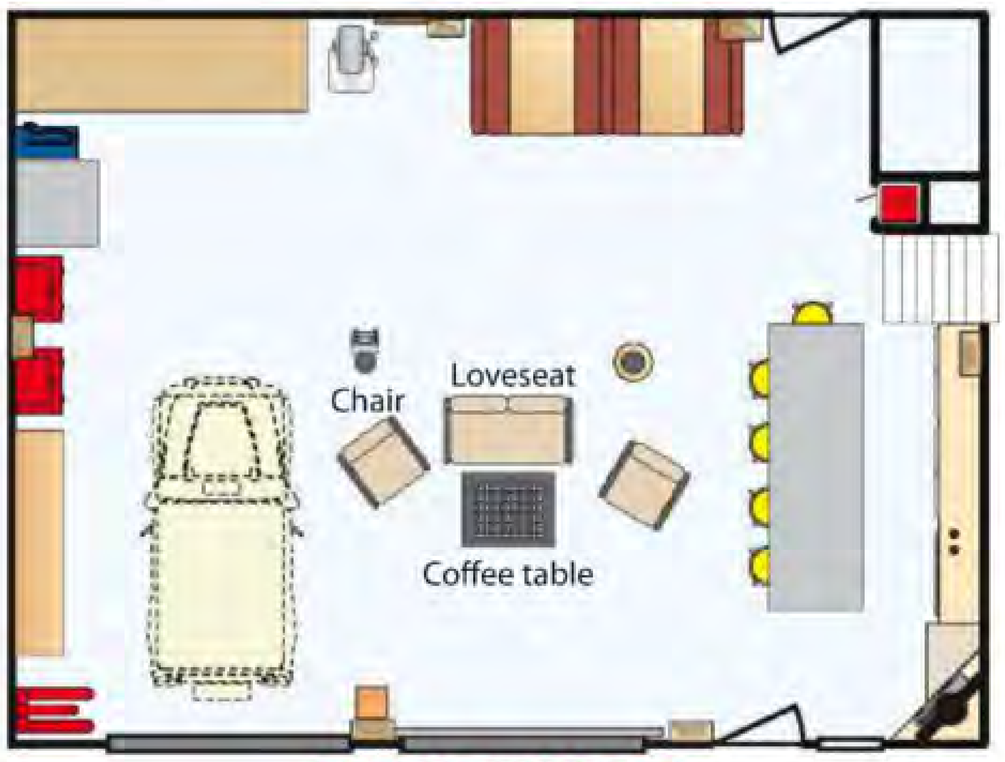
2. Use the terms "free" and "trade" in all craigslist searches.

3. Check craigslist every day; people are always giving things away, and the good stuff goes quick.

4. Many times, if you offer the craigslist seller half of what they are asking, and say you'll be right over with cash in hand, they'll take it.

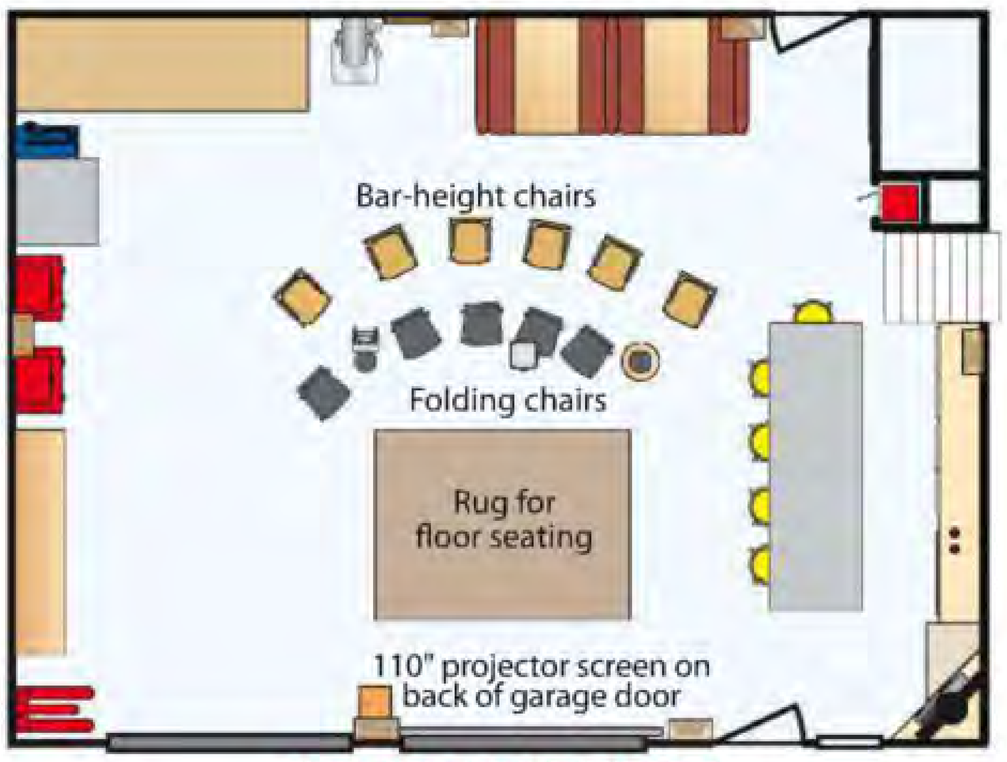
5. Some people prefer to trade rather than buy and sell, and you might be surprised at what they will take in a trade. Paul swapped Jeep axles for the commercial beer cooler behind the bar.

6. Don't be afraid to send a list of stuff you have for trade even if trade is not mentioned in the ad.

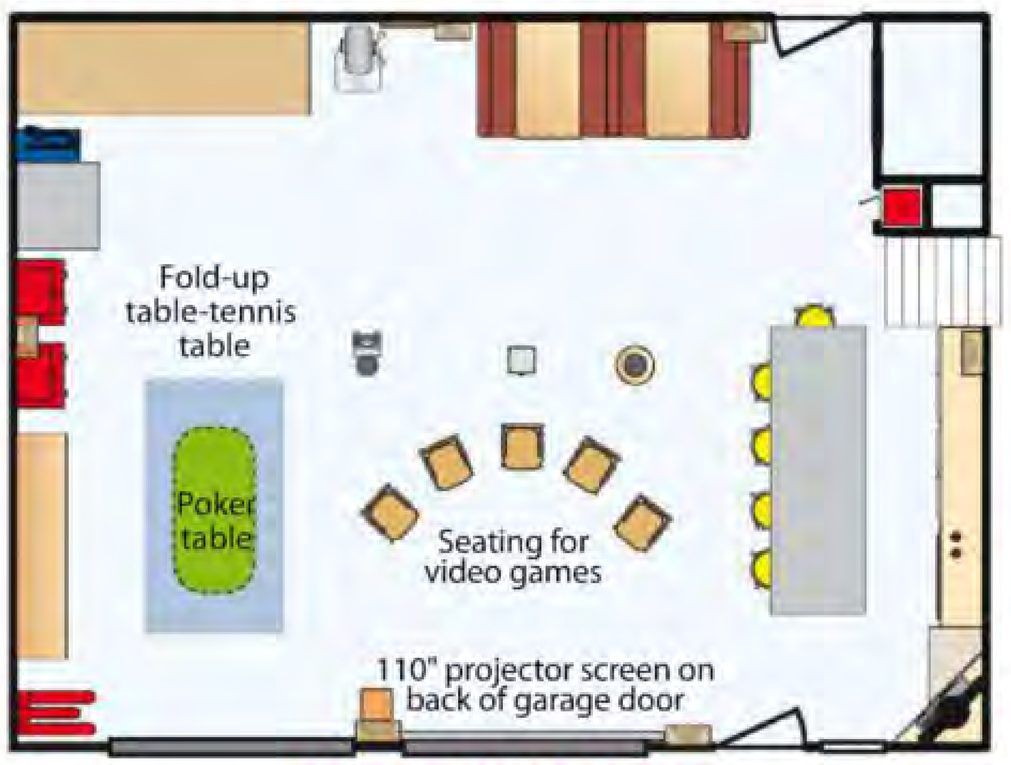


EVERYDAY MODE

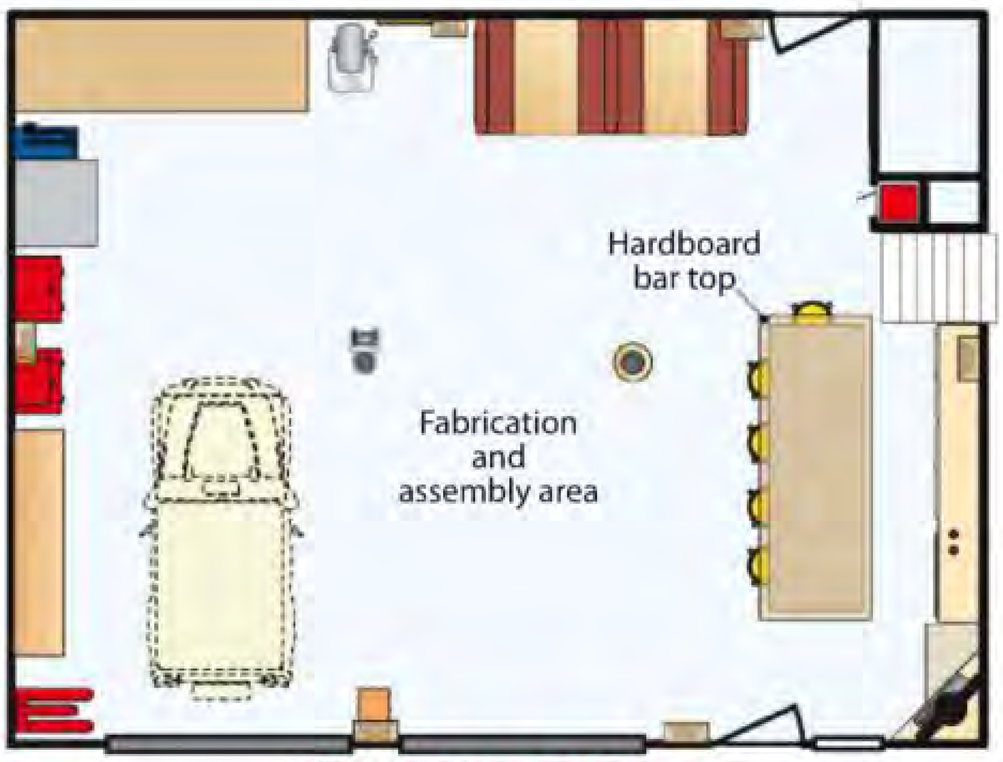
No matter the social event or everyday function, the Ferrari "barage" delivers like a smooth-running Italian sports car. One key: lightweight furnishings that move easily and stack for convenient storage.



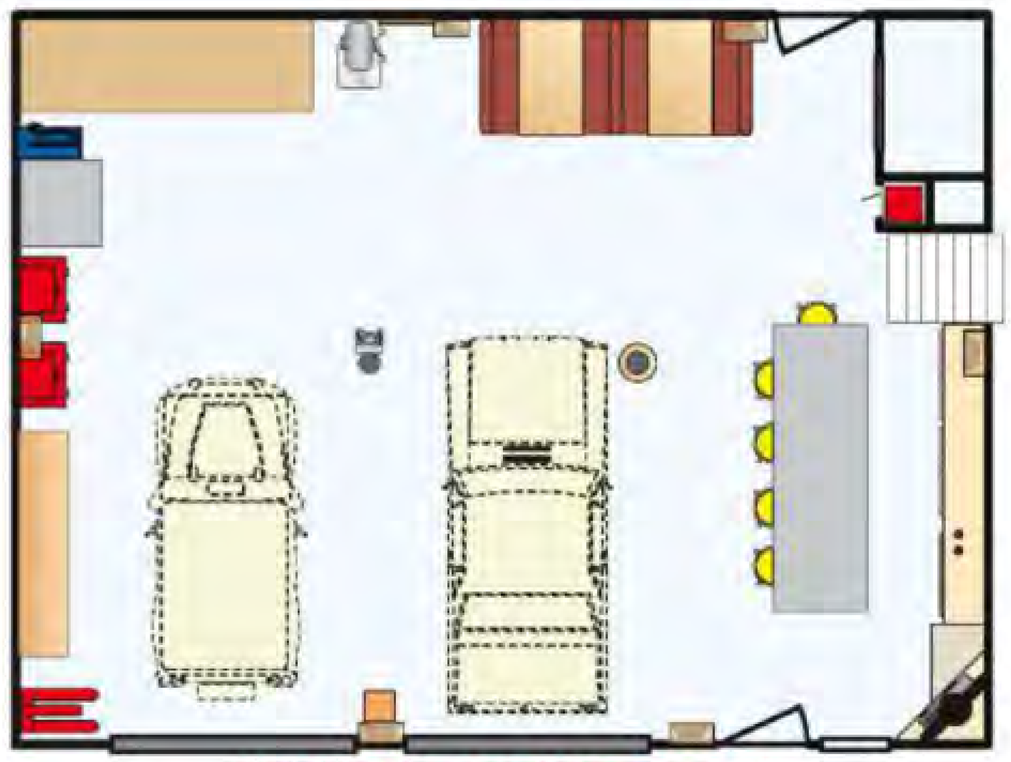
MOVIE-NIGHT MODE



GAME-ROOM MODE



WORKSHOP MODE



WINTER-PARKING MODE

2 Great Ideas from the barage

Rock-solid bar with hidden storage

One of the few items in this family fun zone that never moves: the concrete-topped bar that doubles as a workbench in a pinch. "It weighs about 600 pounds," Paul notes, and for that reason he poured it in place atop a plywood-clad frame of 2×4s. "I learned how to do it watching YouTube videos; it was simple—a lot like pouring a sidewalk. But polishing it (with a 4½" grinder and successively finer diamond wheels) made a real mess inside the garage. If I had to do it all over I would make the top outside and find a way to move it inside."

Within the bar's frame Paul incorporated room for storing a folding-leg poker table on edge. Accessing the poker table couldn't be simpler: Just rotate up the ¾" black-pipe footrest at the corner elbow fitting and remove the bar's end panel, as shown *below*.

Concrete counters: easier than you might think

A pro-poured concrete countertop can cost more than a similarly sized granite top. But you can save serious money if you possess do-it-yourself skills and are willing to study online videos as Paul Ferrari did. Feeling especially adventurous? Then embed shards of broken glass in the bartop and grind those smooth along with the rest of the surface. If possible, do the work outside to save a huge mess inside your family room.

Like any concrete sidewalk, include wire mesh within the concrete to give it strength and prevent cracking. Oil the form for easy release.

Unlike typical concrete installations, bartops require a fine-aggregate mix, such as mortar mix. Screed it flat and trowel it smooth.

Garage-door projection screen

Wall space comes at a premium in a garage lined with cabinets, shelves, and signs, so Paul devised an ingenious way to attach a seamless projection screen to the back of the middle garage door. "I purchased some blackout cloth, a light-blocking curtain liner, for about $3 per square yard at a local fabric store," Paul recounts. "Then, I secured its top edge to the top of the top door panel with a 2×4. After opening the door slightly—just enough so the top panel begins to rotate in its tracks—I attached the bottom of the fabric near the bottom of the third-from-top door panel, again using a 2×4. Closing the door puts just enough tension on the cloth to take out any wrinkles. To keep the fabric from sagging too much in the middle as the door goes up, I clipped the fabric to the door panel between the screen's top and bottom. It works super-slick and can be replaced cheaply if it gets ruined."

▲ *Movies, sports events, and video games come to life on a projection screen nearly as wide as the middle garage door. Paul mounted the fabric-store-purchased material so it stays taut in the closed-door position, and loose-but-not-too-saggy as it rotates between open and closed.*

BASEMENT FUN ROOM

10 Steps to a great Basement Fun Room

Before turning your basement into enjoyable new living space—and nicely boosting your home's value—consider this advice from a pair of seasoned pros.

Jon and Leah Smith have designed and remodeled hundreds of home basements, including several featured in this publication.

With more than 20 years of design and construction experience, the last 15 as owners of Buckeye Basements, Inc., of central Ohio, the husband and wife team of Jon and Leah Smith (shown at *right*) have overseen the conversion of hundreds of home basements into fantastic family fun spaces. Here are their key steps for ensuring your successful basement remodel.

Step 1: Clean it up

Unfinished basements are typically where things go that don't have a place—or use—elsewhere in the home. To get a handle on how much storage space you really need for holiday decorations, heirlooms, home-maintenance supplies, and other items, start by dividing the basement's contents into three piles: items to be thrown away, items to be donated or sold, and things you want to keep. You'll likely be surprised by how much goes into the first two piles. Now you have a fix on how much storage space you'll need in the finished basement design.

Step 2: Establish your vision

Consider the needs of your family and what you want to accomplish in the renovated basement space. You might have each member of your family write down a wish list—it doesn't hurt to dream big at this stage. Detail your "wants" and "needs," and prioritize those. For example, do you want to entertain? If so, how many party-goers do you want to accommodate? Is a play area for children important? How about a crafts room, home theater, or exercise area? If you plan on a growing family, an additional bedroom and bathroom downstairs may prove invaluable in the future.

◄ *Look familiar? Any basement can be transformed into a fantastic family fun room. You just need to know a few secrets from the pros.*

Step 3: Create a realistic budget

Take a look at your financial situation and determine how much you can reasonably invest in the project. Then, if you plan to borrow the funds, determine from where the money will come. Can you obtain a home equity loan or line of credit? Some remodeling companies offer in-house financing or accept credit cards, depending on the scope of the project. If you need to cut back on spending, then limit square footage, not quality. For maximum return on your investment, match the quality of the materials and workmanship in your finished basement to that found upstairs.

Photo courtesy of: Flotec International

Step 4: Dry it up and get structurally sound

If you detect signs of moisture, such as calcium deposits on walls, wet/stained corners, visible water droplets, or standing water, then have those investigated and remedied by a company specializing in basement waterproofing. Know that bowed or cracked walls warn of potential structural issues that should be addressed by a foundation-repair company. Once all moisture and structural concerns have been addressed, move on to the next step.

Step 5: Hire a professional

To achieve a finished basement that's aesthetically pleasing, functional, and well constructed, seek the help of persons with a proven track record in accomplishing those results. For the best design, find a remodeling company with an in-house design team, or utilize the services of an outside architect or interior designer. When considering a professional to do the construction work, do your research. Review the contractor's Better Business Bureau rating, as well as professional affiliations, such as a membership in NARI (National Association of the Remodeling Industry). Check online reviews at angieslist.com and houzz.com. Call company-provided references, and do walk-throughs of projects finished by the contractor.

◄ *Modern basements have an electric sump pump to evacuate water from around the foundation. Protect the investment in your finished basement with a back-up pump powered like the one on the next page.*

▲ *By securing a building permit, you and any future owners of the home will be assured that all work was done according to building codes.*

Step 6: Obtain a building permit

A licensed contractor will be familiar with the process for obtaining a building permit and will know how to comply with local building codes. Depending on location, a permit can cost less than $50 or more than $1,000, and will be issued after a plan reviewer at your local building department approves the final basement

5 tips for a successful basement-remodeling project

1. Use metal stud framing where possible, especially if mold or moisture has ever been present in your basement. Galvanized metal studs will not rot, rust, or warp.

2. Maximize ceiling height by relocating gas and water lines and air ducts into soffit areas. Also, install drywall instead of drop-ceiling tiles wherever possible.

3. Provide aesthetically pleasing covers over water and gas shut-off valves, dampers, electrical panels, water meters, waste-line clean-outs, and other utility devices. Use cabinet doors, grill covers, or other concealment as shown in the

design. If you decide to do the planning and construction yourself, you still need to contact the building department to obtain a "homeowner's permit." Then, ensure that code requirements are met throughout the remodeling process by obtaining the typical inspections of framing, electrical, HVAC, plumbing, and insulation.

Step 7: Do your part to stay on schedule

Many remodeling contracts have allowances for homeowners to select their own appliances, plumbing fixtures, paint/stain colors, tile, flooring, and other items. Select those products on time to ensure the work gets completed according to schedule.

Step 8: Protect your investment

Verify that the existing sump pump works well, and add a back-up system to keep things dry in the event of a power outage. You'll find back-up pumps powered by a rechargeable 12-volt battery, as well as hydrostatic systems, *below*, that use your home's municipally provided water pressure.

Step 9: Keep your insurance up-to-date

Inform the provider of your homeowner's insurance of all scheduled work, and notify them again once the project has been completed and approved by local building officials. Your insurance limits will need to be adjusted to cover the newly finished space.

Step 10: Enjoy your new space

By following the previous nine steps you're virtually assured a fun, functional, and aesthetically pleasing basement family room. So live it up!

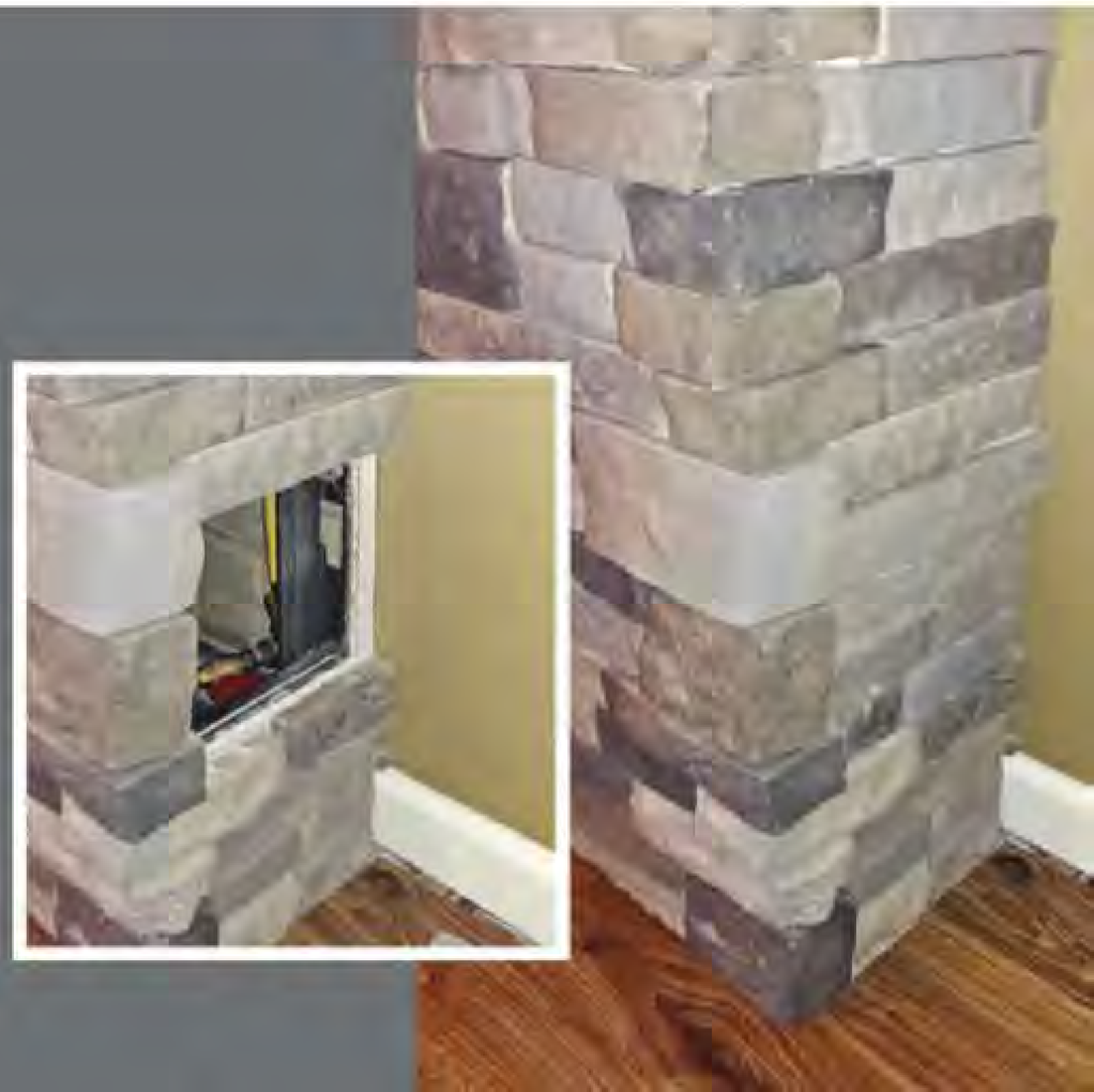
Photo courtesy of basepump.com

▲ *A water-powered backup sump pump, such as this one from Basepump, uses the pressure of your home's water supply to create a venturi effect and draw up sump water.*

example at *right* of a fireplace gas valve hidden behind a panel covered with faux stone veneer.

4. Select flooring that is practical yet aesthetically pleasing. Though true hardwood flooring is not appropriate for most basements because of potential moisture issues, engineered wood or laminate floors work well, as does tile. If you prefer carpet, ask your installer about carpet padding designed specifically for basements.

5. Although not required by most municipalities, ceiling insulation helps limit the transfer of noise between floors. That's something you'll especially want to consider for home theaters.



Getting Creative

Shannon Wilson hears one question more than any other about the room in her home specifically devoted to crafting: "How did you get your husband to let you have this room?" Her reply: "He spent 15 years seeing paint, play dough, scrapbook paraphernalia, and various other crafting supplies strewn all over the house. He is very grateful to have a room dedicated to all my memorabilia!" Shannon's three children, two girls and a boy, are grateful, too, for the time they get to spend with each other, and their mom, expressing their creativity through all manner of crafting.

New home presents fresh possibilities

After years of having to store her craft projects between times working on them, Shannon seized the opportunity to design a craft room from scratch when her family moved into a new home in 2009. "Up until then I was working at the kitchen table," she recalls. "I wanted a room where I could work on a scrapbook page for a few minutes, leave it out, work on it when I have time, and not have to put it away. Also, I wanted space for my kids to craft; having a separate room would alleviate the worry of making a mess in the main living areas of the house. Crafting is something we can do together, and a good way to cultivate the kids' artistic talents. There can be too much emphasis on technology in today's world, and I didn't want my kids sitting around on the computer or playing video games all the time."

Frequently accessed craft supplies, such as paper sheets, store neatly in cubbies where they can be plainly seen for quick retrieval.

This family finds time together in a room devoted to crafting.

Prepped to perfection

In planning the layout of the 280-square-foot room (see floor plan *page 97*) on her home's second floor, Shannon searched the Internet for other craft rooms and attempted to incorporate all of the best ideas in her new space. "I quickly settled on built-in cabinets because they are more cost-effective than stand-alone furniture, they afford a lot of storage space, and facilitate good traffic flow. I also worked into the plan a crafting space for the kids separate from my own so I wouldn't have to worry about them spilling something on one of my projects."

And because Shannon is an avid blogger, devoting as much as 20 hours per week to her site familybringsjoy.com, she incorporated into the room an area for her computer equipment. "I like that I can shut the door and have peace and quiet while writing entries, editing photos, and putting up new posts."

Small countertop organizers provide easy-to-reach storage for pint-sized items and frequently used tools.

Top 5 organization tips for a family-friendly craft room

Step into Shannon Wilson's craft room and you can't help but notice how well everything is organized. "One of my pet peeves is not being able to find a craft item when I need it," she emphatically states. "Many of my craft projects are improvisational, meaning I don't know exactly what supplies I need until I am deep into the creative process. Having to spend several minutes locating something takes away from the creative flow." To keep everything easy to find, Shannon suggests the following:

1 Keep like items together. Put all your paper in one place, all stickers in another spot. When you finish a project, sort the leftover supplies and put them back where they belong.

2 Store your markers lying down. Not only will they be easier to see and identify, they will last longer than if you put them in a cup. Acid-free markers are expensive—I still use markers purchased 15 years ago! Sort them by type in box lids set side-by-side in shallow drawers.

▲ Shannon commonly repurposes various organizers to suit her craft supplies: A wine-bottle rack becomes a holder for ribbon spools; a hardware organizer holds letters.

3 Store scraps of colored paper in clear envelopes. I have 11 plastic envelopes sized 12x12", labeled for pink, red, orange, white, black, brown, purple, green, yellow, multicolor, and scraps. When you need a small piece of a certain color, just pull out the envelope and find what you need instead of cutting up a full sheet.

4 Keep oft-used supplies readily accessible. Place them on the counter, or in a wall-mounted organizer where you can see them. I have my scissors in a caddy on the counter. Tin boxes on a magnetic board store my favorite brads, eyelets, and other small items, all within easy arm's reach. If you put things in drawers, make them readily identifiable in clear containers. [See photo at *right*.]

5 Invest in multi-drawer organizers. Get the type sold at hardware or dollar stores for holding nails, screws, washers, bolts, and such. [See photo *top right*.] I use one for storing paper and chipboard letters. Each drawer has a letter sticker on its front identifying what's inside. When I need a letter, say an "A," I pull out the drawer with all the A letters in it and look until I find the one I want.

▲ *Thinking "outside the box" comes naturally to crafters. Here, a thin cable and clips provide an eye-catching way to display scrapbook pages.*

For countertops she chose plastic laminate (frequently known by the common brand name Formica). "My builder wanted me to use granite, but I was like 'Are you kidding?' That would have cost a fortune, and I'm totally fine with laminate." And though she is "beyond happy" with the completed room, Shannon does wish she had done one thing different with the countertops: "I should have had the installers incorporate a 12" hole in the counter near where I cut materials, such as paper. Then I could quickly sweep clippings and other debris through that trash

▲ *The Wilson kids develop skills and stretch their imaginations making all types of crafty items.*

▼ *Even the end of a base cabinet can be used to store items by adding a few shelves.*

chute and into a garbage can housed inside the base cabinet."

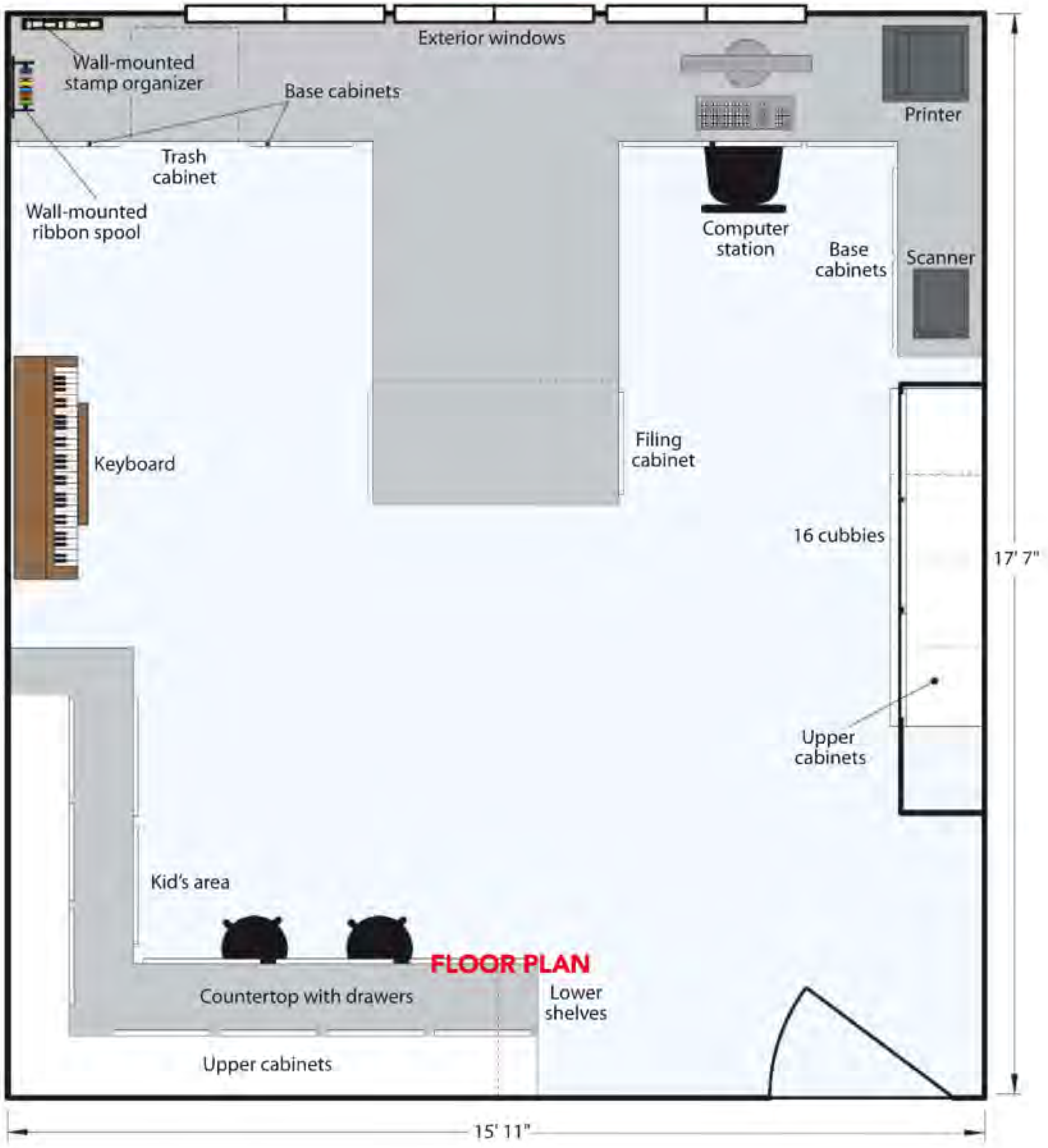
She has no regrets about her flooring choice. "I absolutely love the cork floor," Shannon says. "It cushions our feet for comfort, reduces noise transmission to downstairs, and cleans easily."

About the blogging

Besides crafting, Shannon enjoys sharing daily experiences through her online blog. "It's a great way to connect with other people with similar interests," she says. If you're thinking about starting a blog, she offers three pieces of sage advice:

- "It's important your blog look nice and reflect your personality. For an effective and attractive site, hire a graphic designer to set up its look and layout. The initial cost is well worth it.
- "Decide if you're blogging to make money or as a hobby. On average, I spend about 20 hours per week while in hobby mode. Hard-core bloggers making money claim you should publish at least five posts a week—I guess that is why I haven't made much money blogging. My family comes first.
- "Use WordPress blogging software. I began my blog more than six years ago using blogger. I switched to WordPress because it looks more professional and loads faster."

FLOOR PLAN



FLOOR PLAN

Convivial cruisers

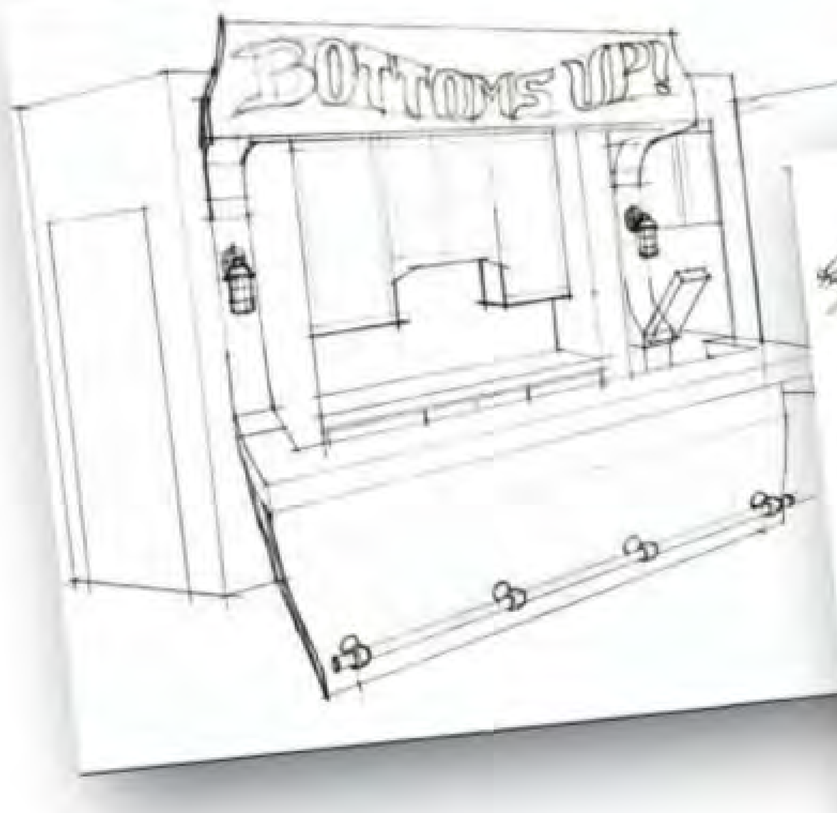
Dr. Kevin Beyer, a Michigan gastroenterologist, has a sense of humor about his medical specialty, which includes the field of proctology. So when it was time to name the boat-themed bars inside and outside the home he shares with wife Mary and their children, the former naval medical officer aptly chose "Bottoms Up" for the inside watering hole and "Rear Admiral" for the outside spot.

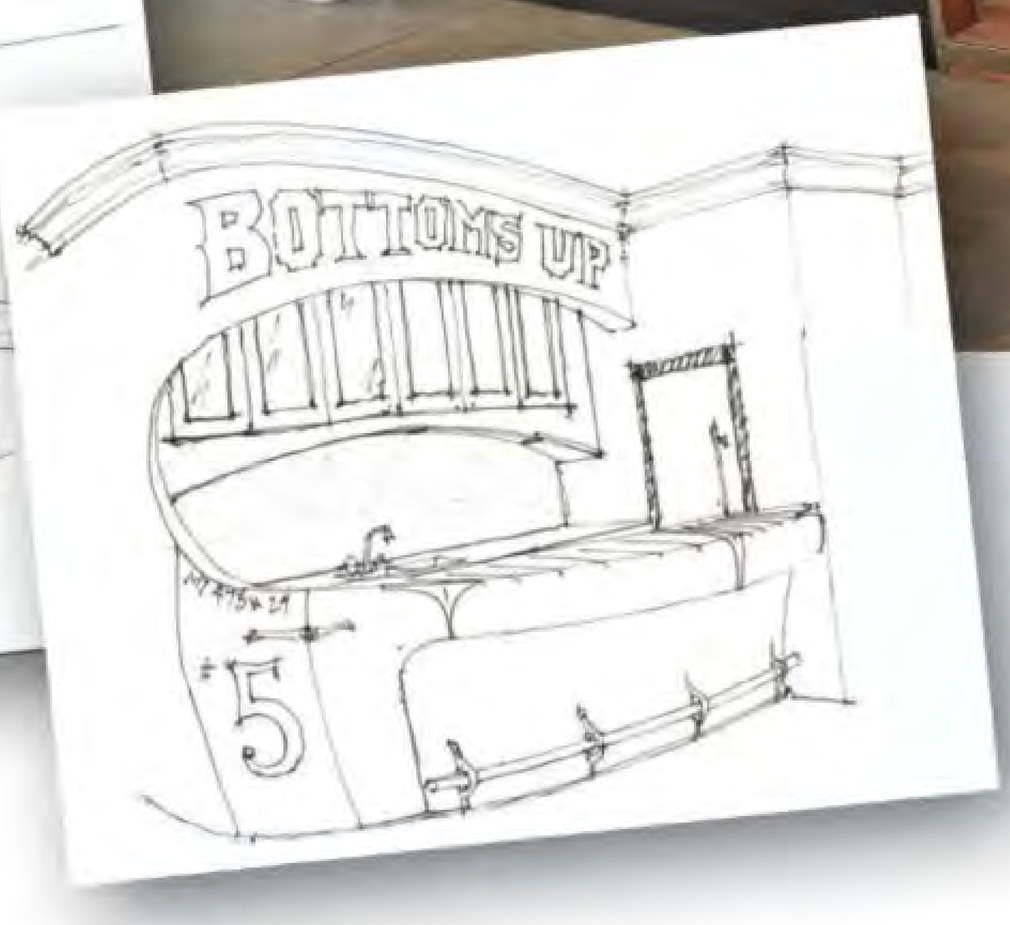
When those bars were just ideas in his head, Kevin turned to Wayne Visbeen of Visbeen Architects (visbeen.com) in Grand Rapids, Michigan, for design assistance. Their refined concepts were turned over to craftsman Dan Carlson and his capable team at Carlson Design (dancarlson.com) in Ada, Michigan, for fabrication. The end results look much like the real thing.

For "Bottoms Up," Carlson's crew fashioned the stern of a vintage wooden-hull cruiser, making extensive use of genuine mahogany throughout, including the bar top that has parallel, routed grooves painted white to imitate a boat deck. Stainless steel trim and footrest, teak floor, boat-throttle beer tap, and dual bronze exhaust ports provide additional realism. And, with the flip of a

INSIDE BAR

ARCHITECT'S CONCEPT DRAWINGS





◄ Homeowner Dr. Kevin Beyer worked with his architect, Wayne Visbeen, to develop these concepts. The wood and metal fabricators at Dan Carlson Design took it from there.

Photographer: William Hebert

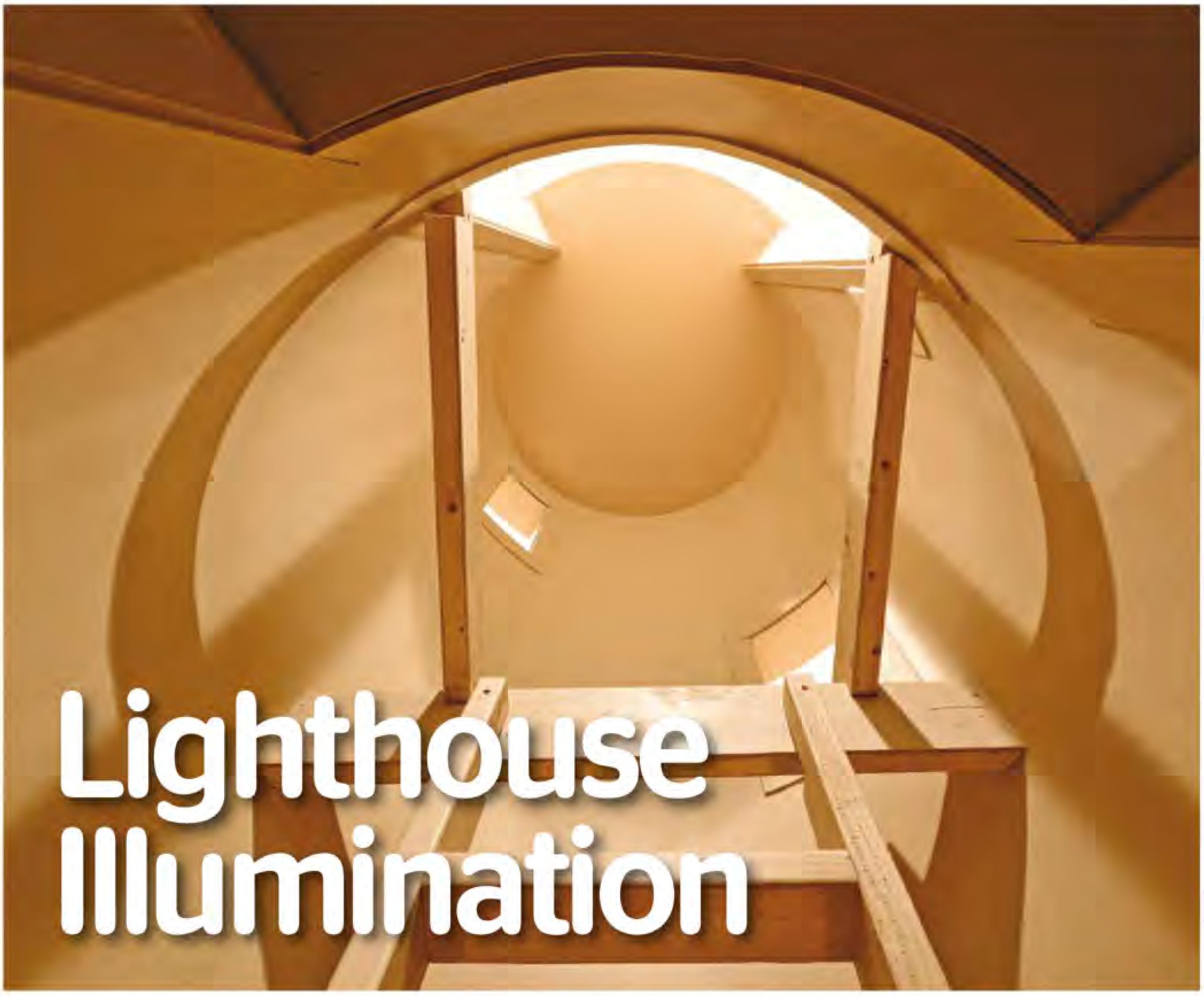
▲ "I've always wanted a classic wooden cruiser," Kevin remarks. "For now, this is as close as I'm going to get to having one!"

LAKESIDE BAR

▲ "We entertain a lot," says Kevin with emphasis, "and we love being outside, so the outdoor bar gets a lot of use during warmer times of the year. Friends will pull up to our dock in their real boat and have a refreshment at our patio boat."

remote switch, a fog-like mist belches from the exhaust ports, often accompanied by Kevin's recording of a diesel engine roaring to life. "The fog will cover the entire floor of that area," Dan points out, "which is a pretty cool effect when people start dancing!"

Carlson and his crew built the "Rear Admiral" bar to weather Mother Nature's fury with such features as a cedar hull painted with a marine-grade coating, granite bar top, stainless steel appliances, and an authentic, functional bow light with flag pole. "Our slogan is 'Makers of Stuff,'" notes Dan, "and there is nothing we enjoy making more than cool and fun custom creations like these two bars."



Lighthouse Illumination

When homeowners Darren and Cindy decided to finish their home's basement, their two young daughters weren't happy with the idea. "They loved playing with scooters, skateboards, and other toys on the wide-open concrete," Darren recalls. "So we promised them we would include something special for them in the remodeled space. We talked to six contractors, asked each of them to come up with an imaginative play space just for the girls [now ages 8 and 12], and only one [Jon Smith with Buckeye Basements, Inc. of central Ohio] came back with a creative idea. He said 'I'll build you a lighthouse,' and we just loved his concept."

The finished project includes a large deck area behind the lighthouse with curtains that can be pulled for seclusion, and hammocks for relaxing and reading. Because the space under the deck is finished with drywall, wood trim, carpeting, and LED lights, kids like to crawl and hide in that area, which doubles as toy-storage space. Playful children enter the lighthouse through the space under the deck, or through an opening in the lighthouse at deck level.

"The deck would be a great stage for putting on a play," Darren says, "and though that hasn't happened yet, our 12-year-old and her best friend are putting together a movie called 'Ghost in the Lighthouse.' I've seen the trailer and it's pretty good!

"The lighthouse itself is mostly just decorative," Darren adds. "It looks really cool and kids are immediately drawn to it whenever they come over. Of course, building it was quite a task for the craftsmen. The inside walls have three coats of plaster, and the outside is covered with small bricks, most of which had to be broken to shorter lengths to make a smooth, rounded surface."

Of course no lighthouse is complete without a beacon. The lamp atop the lighthouse turns on/off from switches inside the lighthouse, and on a nearby room wall where there's a bank of switches for controlling other room lighting.

▲ *Viewed from the inside, looking up from floor level, the lighthouse includes windows and a doorway for going onto the surrounding deck. A switch turns the beacon light on and off.*

RETRACTABLE CURTAINS FACILITATE PLAYS AND OTHER ENTERTAINMENT.

HAMMOCKS PROVIDE COZY RESTING PLACES FOR RELAXED ENTERTAINMENT, SUCH AS READING A BOOK.

◄ A deck-level entry provides access to the interior of the lighthouse as well as the crawl space under the deck.

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RAPID PUMP® 3 TON LOW PROFILE HEAVY DUTY STEEL FLOOR JACK

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- Weighs 77 lbs.

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12" SLIDING COMPOUND DOUBLE-BEVEL MITER SAW WITH LASER GUIDE

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CHICAGO ELECTRIC POWER TOOLS

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$199.99 REG. PRICE $299.99

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3 GALLON, 100 PSI OILLESS PANCAKE AIR COMPRESSOR

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drillmaster

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2 HP INDUSTRIAL 5 MICRON DUST COLLECTOR

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SUPER COUPON!

14" OSCILLATING SPINDLE SANDER

CENTRAL MACHINERY

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900 PEAK/ 700 RUNNING WATTS 2 HP (63 CC) 2 CYCLE GAS RECREATIONAL GENERATOR

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12" x 33-3/8" WOOD LATHE WITH REVERSIBLE HEAD

CENTRAL MACHINERY

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2-1/2 HP 12" PLANER

CENTRAL MACHINERY

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Item 93897 shown

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REG. PRICE $149.99

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All-in-Good-Fun Home Arcade

Welcome to the world of vintage coin-operated machines.

Considering a juke box, slot machine, or arcade game for your home family fun room? Then check out the home of Kevin Keinert, an electronic- and mechanical-systems engineer who has restored just about every type of amusement machine you can imagine. Though he admits to losing track, Kevin estimates his collection at "100–120 machines, about half of them fully restored."

▼ *If it takes a coin and then whirls, twirls, buzzes, lights up, rings, dings, or sings, Kevin Keinert can likely restore it.*

Hooked at an early age

As a youth, Kevin was fascinated by all things mechanical, and clearly remembers a trip to a local bowling alley at age 14 in the mid-'70s. "A technician was working on one of the pinball machines," Kevin recalls. "When he opened it up, and I saw the inner workings, I was amazed and wondered how the technician could understand how it all functioned. I love playing arcade games, but even more interesting to me is how they work.

"When I was 22, I bought my first pinball machine. By age 30, the collection had overtaken our modest home [1,200 square feet]. My wife remained patient as games slowly appeared in every room. I

Kevin's current fun room is filled to the gills—with dozens more machines in his garage—so he's preparing a much larger fun space. (See page 112.)

wanted to give her our home back, so I learned Auto-CAD and drew up plans for a 2,000-square-foot addition, with 1,000 square feet devoted to a game room for the machines. But no matter how many machines I collect, I don't look at myself as the final owner; I've only purchased the right to temporarily maintain them during my lifetime!"

A few special features of the arcade room

Because Kevin wants the flexibility of repositioning games, neon beer signs, and other electrical devices around the room, and changing how clusters of those items get power with the flip of wall switches, he devised a wiring scheme quite different than usually found in a home. "In a typical residential setting, all of the outlets and lights are connected in sequence, a so-called 'daisy chain,'" says Kevin. "Once the room is wired, you have few options in changing what outlets connect to various wall switches. To give myself complete flexibility in which outlets are always hot, and which outlets turn on with light switches, I 'home run' the switches and outlets directly into junction boxes in the ceiling. I have easy access to those junction boxes by removing acoustic tiles in my suspended T-bar ceiling. By changing the connections in each box I can alter the number of outlets controlled by a single switch.

"I also have an interest in vintage Lionel O-gauge trains, so there's a track layout with scenery, bridges, and such. To give it additional interest, the tracks enter a tunnel that goes behind a wall, circles around the back of a fish tank, then emerges from a second tunnel in a bookcase where it travels along a shelf before heading back to the layout. I don't relish the chore of changing the aquarium water so I rigged the tank with an automatic water-changing system of my own design. Sensors and other electronics control the partial draining and refilling of the tank on a regular basis."

▲ *Kevin's collection of coin-operated machines includes many electro-mechanical devices like these 1970s pinball machines. Even old vending machines like this 1950s-era Coke Vendo Model 110 earns it keep dispensing cold refreshments for game players.*

◄ *Vintage Lionel O-gauge trains wind around a layout, and in and out of wall openings, adding to the seemingly infinite supply of visual and auditory stimuli.*

3 basic types of arcade machines

Kevin's collection includes highly collectible devices made more than 100 years ago when arcades were a major entertainment venue. Over time the machines have become increasingly sophisticated, evolving through the following stages:

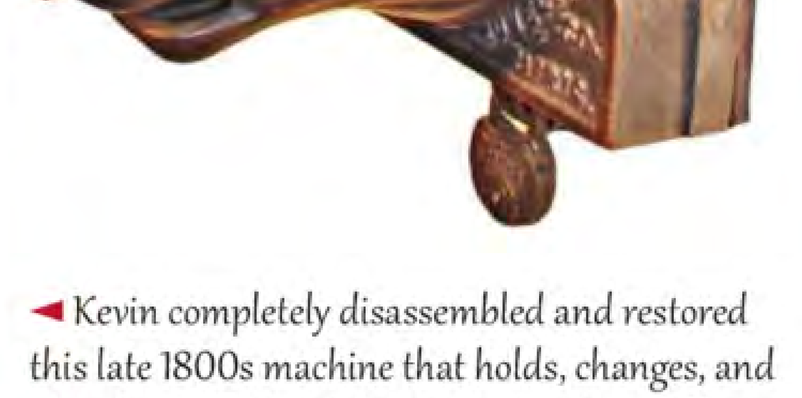
1 Mechanical

Up until the mid-1940s, manufacturers produced arcade machines that were entirely mechanical, relying solely on gears, springs, levers, and other mechanical devices. Here are just a few.

◄ A gambler can place up to three bets, each costing a quarter, on this 1930s "Mills Dice" machine for playing craps. It throws dice into the center window area and can keep track of multiple bets. Kevin reveals the secret of how it reads the dice at youtube.com/user/keinert.

◄ This 1930s slot machine vends a roll of mints for each nickel played—an attempt to get around gambling laws of the time by giving a player something for his/her money. It even tells fortunes!

A cast-iron bull's-head dispenser, dating to 1904, spits out perfume after you insert a penny and crank its horns. ►



◄ Kevin completely disassembled and restored this late 1800s machine that holds, changes, and plays twelve 27" metal discs, each with a different tune. You'll find a restoration video on Kevin's Youtube channel listed above.

2 Electro-mechanical

These machines, made from the early 1940s until about 1980, incorporated a mix of mechanical devices and simple electronics, such as relays, rotating wiper disks, and contact switches.

A labor of love for preserving classic old arcade games

▲ Quarterhorse Derby, a 1974 gambling machine, combines a complex mechanism for moving the horses around a track with an electro-mechanical computer that randomly chooses a winner and sets odds.

◄ From cosmetics to electronics to mechanicals, Kevin Keinert restores every square inch of an arcade game to its original, fresh-from-the-factory condition.

CHICAGO COIN'S TWIN SKEET & TWIN RIFLE

▲ Twin Skeet Shoot (left) has holographic skeet that fly, and Twin Rifle (right) features big-game animals that pop up at random. Both games have black lights to make the targets glow and a large mirror mounted at a 45° angle to make the scenery seem 6' deep inside the 3'-deep cabinet.

A 1950s-era ► Stoner Theatre candy-vending machine awaits restoration. It vends packs of gum or mints for a nickel, as well as candy bars or box candies for a dime. Kevin bought this at a local auction for $300; fully restored it could fetch up to $5,000.

MIDWAY'S DUCK HUNT

BROMLEY'S LITTLE PRO GOLFER

BUCKLEY'S TRACK ODDS 5-CENT PAYOUT HORSE-RACING MACHINE

KASCO UNTOUCHABLE

WILLIAMS MINI-BOWL

▲ Various 1970s electro-mechanical games combine moving parts, such as guns, golf clubs, and bowling balls, with simple electronics. Unlike other '70s gun games that have mechanical connections to register a hit, Midway's Duck Hunt uses photo cells in targets to detect the gun's light beam.

3 Fully electronic

Beginning in 1979, manufacturers built sophisticated solid-state electronics and integrated circuits into arcade games. The increasing sophistication of those components, combined with their decreasing price and shrinking size, gave rise to home-based video-game consoles in the 1990s. Those consoles have largely replaced arcade games for users interested purely in a high-tech gaming experience and not the nostalgic or sensory experience of good, old-fashioned arcade machines.

▲ *The fun never ends in Kevin's game room. A 1980s Baby Pac-Man machine uniquely combines video and pinball in one game. At right, a 1992 Sega Virtua Racing Deluxe machine includes an air compressor and seven air bags in its seat, sides, and rear to make the player feel each bump, curve, and crash.*

The granddaddy of arcade games: the Sega R360

Should you want the greatest arcade game of all time for your family fun room, here it is: the Sega R360, a flight simulator made in Japan between 1991 and 1994 at a price exceeding $90,000. Kevin estimates about 20 were brought into the U.S.—the buyers were large amusement parks and resorts. Over the years Kevin has acquired five R360s "at a steep discount from the original price, due to their varying degrees of disrepair" he stresses, and has refurbished and sold two of those, using the profits to buy more vintage arcade machines. In this game, you strap into a gyroscopic cabinet and pilot an F14 fighter jet in combat; get hit by the enemy and the simulator sends you spinning on two axes, turning you completely upside-down. Striking a large emergency stop button halts the spinning. Before you purchase one, just know that it weighs 2,200 pounds, requires 220-volt three-phase power, and for safety reasons an attendant needs to be on hand to monitor the game.

► *Not shown with this R360 is its standard-equipment perimeter fence to keep spectators at a safe distance from the whirling orb.*

What to know before buying a used machine

Few of us have Kevin's extensive background in mechanics and electronics, but we can gain from his experience before plunking down hard-earned bucks on an arcade machine. "Even with my background, I've bought near-worthless machines," Kevin admits. "Buying an old amusement device is like buying a used car. First, you have to research its value. Look for that machine on ebay; search the sold listings to see what buyers have paid for it recently. If possible, befriend an experienced collector, or go to online discussion groups to seek out knowledgeable collectors. Value generally depends on two things: the machine's collectability, which is determined by many things including its rarity, appearance, and overall appeal; and its condition.

"Of course you want to power up the machine and check that everything works, so never buy a machine that's not connected to a power source. Take a peek inside the machine as described in the photo at *left*. If in doubt, have it inspected by an expert.

"Also, ask who maintained it or repaired it last, and conduct research on that person if you can—you want to be sure that any service was performed by a reputable technician. If a known 'hack artist' has worked on the machine, it may require serious and expensive repair."

Should repairs be in order, make sure the price of those fixes doesn't exceed the ultimate value of the machine in "Grade-1 restoration condition" (restored to a state as good as the day it rolled out of the factory). Kevin charges $60 per hour, a typical rate in the arcade industry. Here's what he estimates it might cost to restore various machines (before any cosmetic changes, which are extra):

•Pinball machines: $500–$2,000 for electro-mechanicals depending on how much its internal assemblies require repair, cleaning, and adjusting; $400–$1,200 for electronic models.

•Slot machines: $800–$1,500. Know that laws for owning one vary by state. In California, where Kevin lives, for home use a machine has to be no less than 25 years old.

•Jukeboxes: Little problems might be a few hundred dollars, but a full restoration can cost thousands. Kevin restored a 1952 Seeburg model B at a cost of $5,000 plus parts. "You can buy new and vintage parts for old jukeboxes," Kevin says. "I purchase a lot of replacement parts from victoryglass.com."

▲ *The Kienert kids, including sisters Lisa (left) and Kristal, have grown up surrounded by arcade machines, making for fun gatherings of family and friends. Here they pose with one of Kevin's favorite restorations: a super-rare Kasco Untouchable cops/robbers game.*

▲ *When purchasing a used machine, check its interior for broken or poorly spliced wires, corroded metal components, and any signs of worn or damaged parts needing replacement. The "guts" of this 1977 Gottlieb Super Spin are clean and bright, with minimal wear on moving parts. A good buy!*

The next game room: already in the making

Kevin considers the collecting of arcade machines to be an addiction—and if you saw his eight-car garage you would understand why. It's stuffed to the rafters with machines and parts. Of course, being an engineer, he devised a solution. "I'm in the process of building my final game room, a 4,100-square-foot addition to the back of the house," Kevin says. "About 1,300 square feet will be a lounge area with a pool table, bathroom, and a 14' mahogany wet bar with draft beer on tap. The rest of the building will be a functioning arcade where I can finally display my entire collection in one place." It may take another year or so to complete, though, because he's building every bit of it himself. Nevertheless, the bar is already set up even though he's barely finished framing the walls. As Kevin says, "When friends ask my wife why she puts up with my game collecting and restoring, she tells them 'at least I know where he is, and not out drinking in a bar somewhere.' Well, I just took care of that problem!"

A 3'-tall, 50'-long, laminated center beam supports roof rafters that reach to a 22' height over the wide-open arcade area.

▲ The lounge area (foreground) lies between the arcade room and the main house. The roof may eventually receive electricity-producing solar panels like those that power the house.

◄ Kevin saves money by doing nearly all of the construction work himself, with an assist from family, friends, and the right equipment.

See it on video

View additional photos and videos of Kevin's collection, see how he does some of his refurbishing work, and watch a Sega R360 in operation.
youtube.com/user/keinert

Though the lounge area is far from complete, ► Kevin already has its bar in place. "I put that in right away in order to keep the help, such as my son Daniel [right] and his friend Jeff, available, refreshed, and ready to lend a hand," Kevin points out.

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