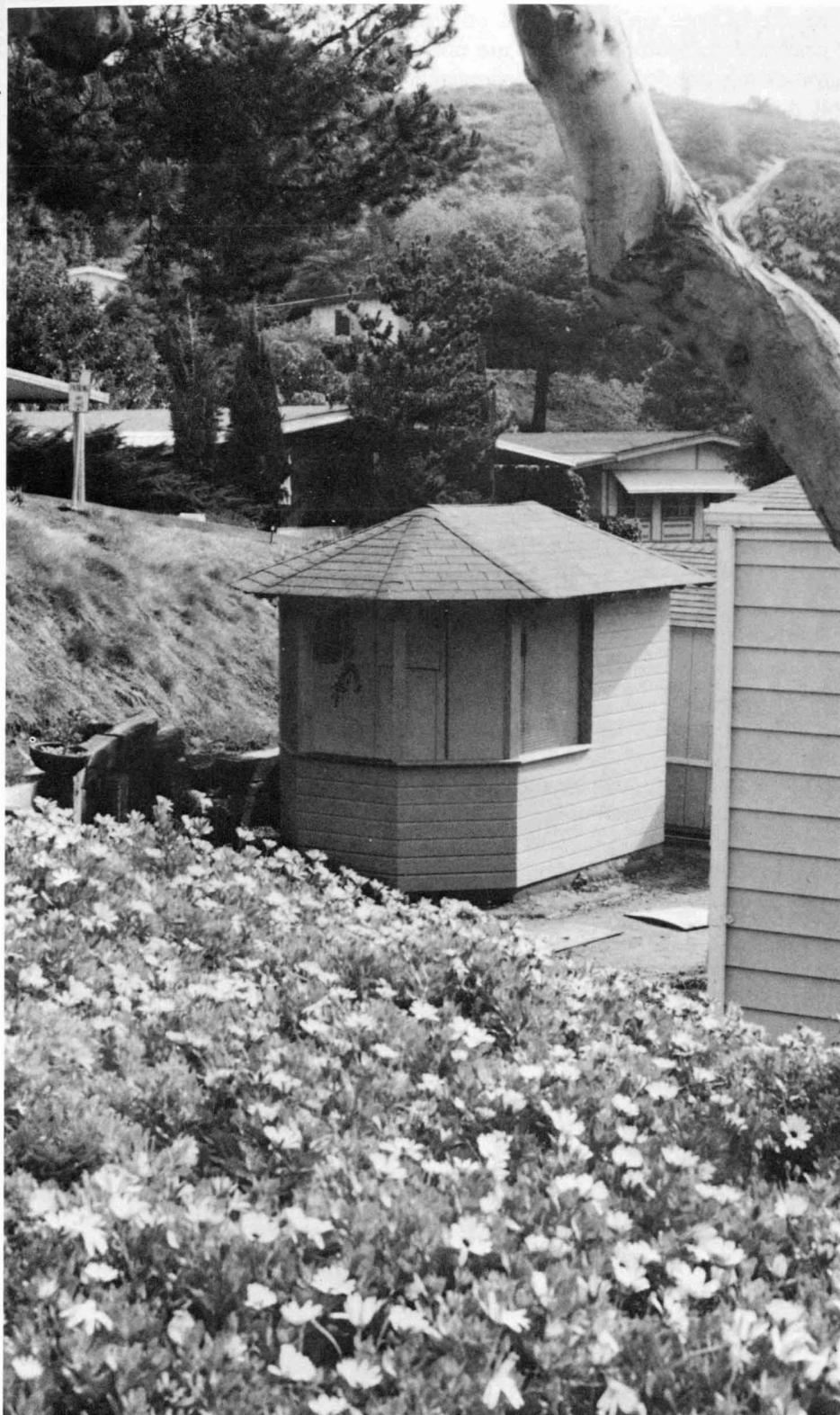


# New Angles in Aviary Design

*Hard Work on Plans Results in Less Hard Work in Construction*

by Tom Gaulin, Brea, CA

Photos by Tom Gaulin



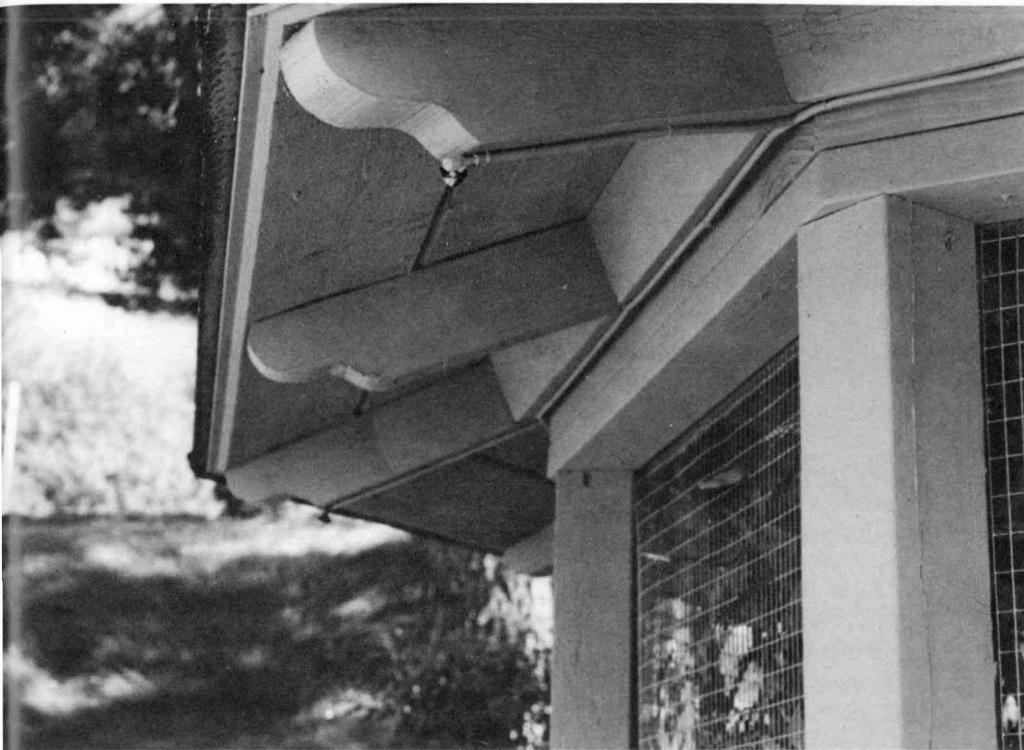
*A well constructed and attractive aviary for Lady Gould Finches.*

After several proposals I finally discovered a basic shape for my new aviary that my wife and I could live with. This was my first challenge—to sell my spouse on a workable concept. I was clearly notified that if we were going to have an aviary in our modest yard, that it must be an attractive addition and *done right*.

I must admit, my prior history with cages on our patio left something to be desired so I knew that I would have to do everything possible to integrate a highly functional, eye pleasing sanctuary for my little friends, into a modest space. Utilizing all the features that had benefitted my breeding success in the past and eliminating the problems with waste, mess, and maintenance were my prime objectives.

I am a fancier of Lady Gould Finches and have enjoyed a reasonable amount of success breeding these beautiful creatures. Many people warn potential owners of the difficulties associated with keeping Lady Gouldians. I do not recommend that a novice start bird keeping by running out and purchasing a flock of Goulds. Mistakes can be extremely costly and the needless death of birds is simply morally unacceptable.

I enjoy keeping and breeding Goulds for a variety of reasons: They are extremely beautiful both in color and markings. They are reasonably quiet/less likely to disturb neighbors. After getting to understand, then you realize they are surprisingly intelligent and have unique personalities. Their beauty makes them extremely desirable, easy to sell and they tend to bring



*The hip roof is one of the nicest looking of all roofs. The carved end of the roofbeam adds a pleasing touch to the overall beauty of the aviary and also supports the misting system.*



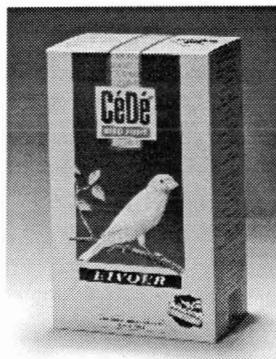
*The floor wash drain system has a screening cap to filter out all seed and debris. Only clear water drains into the gravel.*

better returns.

Prior to becoming involved in finch keeping, I spent over 15 years working with marine fish. Salt water fish are also considered difficult to keep as pets, but after doing so one discovers that the focus should always be on providing the best environmental conditions possible, with low pollution levels, good light, and a variety of foods and vitamins in good supply. Limiting excess population growth will result in low-stress living conditions which will lead to good health and proliferation.

Back to the Aviary. My wife and I agreed on a section of our yard that would be dedicated to the project. Although it was only a 10 foot by 7 foot area, which for many breeders may seem a joke, I was determined to make the best of it. In an effort to clarify the process I followed to complete the project, I have organized the procedure into a series of steps which I considered prior to execution, and this basic outline may be helpful to you if you are considering a similar endeavor.

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Photos by Tom Gaulin

*Before the foundation was poured, all the plumbing and wiring had to be figured out and installed in the correct places to be available when the concrete hardened.*

### Step 1 Foundation

The foundation was my first consideration and with the words "done right" echoing in my head the decision was easy. I wanted a structure that would last, not need regular repair like wood or brick, free of vector problems and easy to maintain. A concrete slab was the best answer.

We started out by framing off the area we would cover with cement. I installed drains in the appropriate areas, and other plumbing (piping for fresh water and electricity, etc.) that was to go into the structure through the slab floor. The frame was set up in our basic shape which I refer to as an octangle.

### Step 2 Structural Support

Four by four timbers were bolted into metal saddles located at the eight corners of the foundation. They provided the initial primary support for the roof. The roof rafters were cut from 7 x 8 stock and were very critical to the overall strength and shape of the structure. Due to the unusual shape of the unit, we required what is referred to as a hip roof. Although I refer to "we," I must admit that Robbie Alexander, a good friend and custom home builder was the responsible person for this and much of the other construction. Without his efforts I know the project would have neither looked good nor accomplished my ideal goal. A well built hip roof is truly an eye catching feature. The roof material was

1/2 inch plywood with 10-inch ship lap covering the exposed eaves. The rafters were cut on the ends to give them a decorative design.

### Step 3 Roof

The roof is truly the most interesting structural aspect of this aviary and really catches the eye. To cover it I used a foam base material then covered it with black roofing paper and finally asphalt shingles. In order to allow for heat dispersion a vent was installed in the ridge and was then covered with shingles. This being my first attempt at roofing a building on my own, I took my time, spoke to professionals to get their feed back, and with a little luck wound up with pleasing results.

### Step 4 Exterior Walls

The exterior covering can make or break you when it comes to pleasing your spouse and the neighbors. I chose a masonite material that had a factory wood grain finish. Installation was reasonably straight forward, but again, Alexander's carpentry skills made the big difference in dealing with the numerous corner angles in this custom design. With a very minimal amount of spackle on the corners the look became very clean.

### Step 5 Interior

My requirements for the interior wall covering were that they be extremely water resistant, bright and

easy to clean. The material I used was a plastic type of surface that is commonly used in bathrooms. It was reasonably easy to cut and install but tough to transport from the lumber yard, because it was floppy and liked to slip and slide. This was a decision I thought seriously about because it was a little pricey, however, I believe that sometimes it makes sense to spend a little extra up front in order to avoid dealing with problems and possible replacement expense later. I was concerned with the use of plywood or drywall because I wanted to avoid potential problems with mold, bacteria, dry rot, and possible insect infestation. Should these materials become damp and begin to break down, the birds could also face health problems associated with consuming it. In the open flight area I used typical 14 gauge wire. One 1 in. X 1/2 in. fastened with clips and trimmed with one inch oak. The outside ledge of the flight is also covered with sealed oak.

### Step 6 Automation

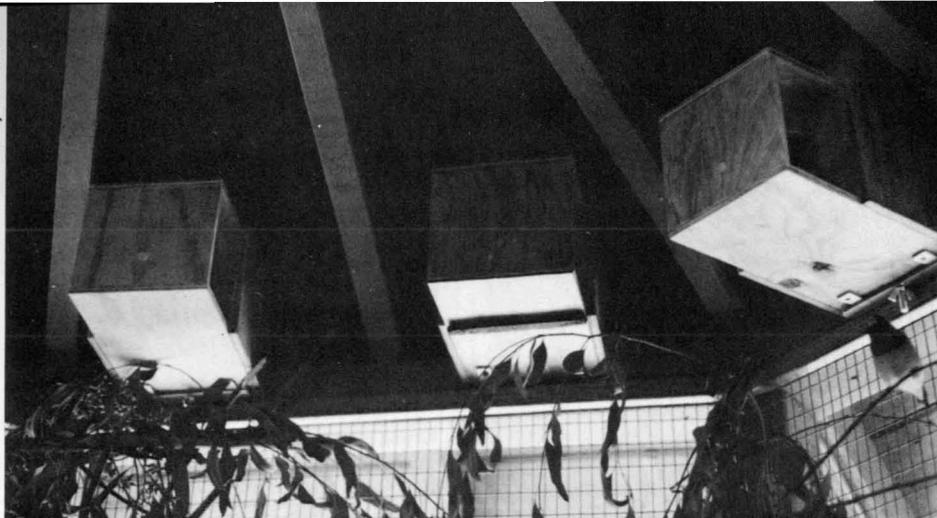
Automation was something I strongly desired and felt was an absolute requirement to keep the maintenance and use as easy and trouble free as possible, while providing maximum comfort and security for the inhabitants. Past experience with simple timers on my cages for light control was helpful, but I really wanted to go



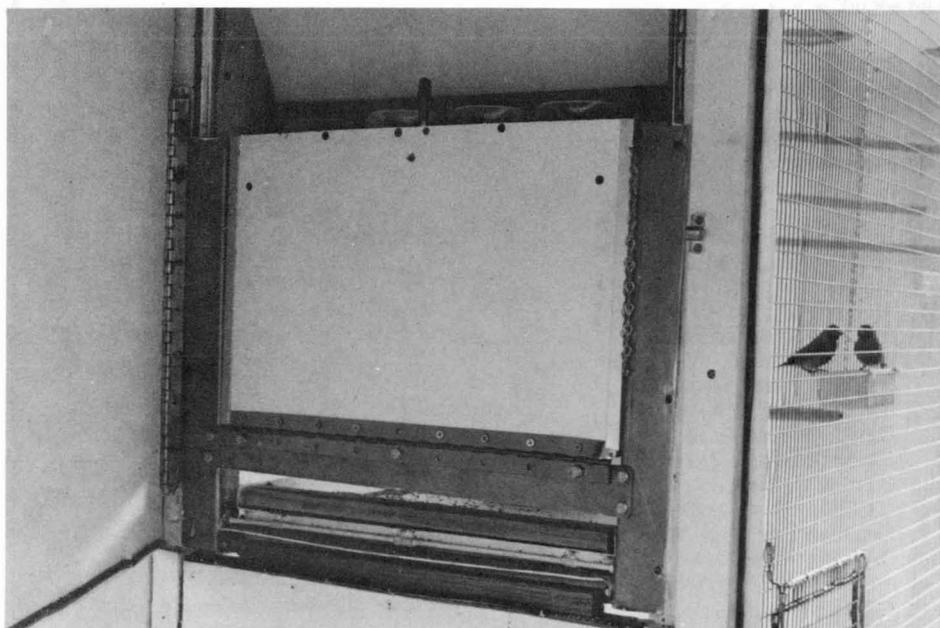
Once the concrete slab is ready, the framing goes up and the structure begins to look like an aviary. Note the electrical fixtures.

## Commercial Members

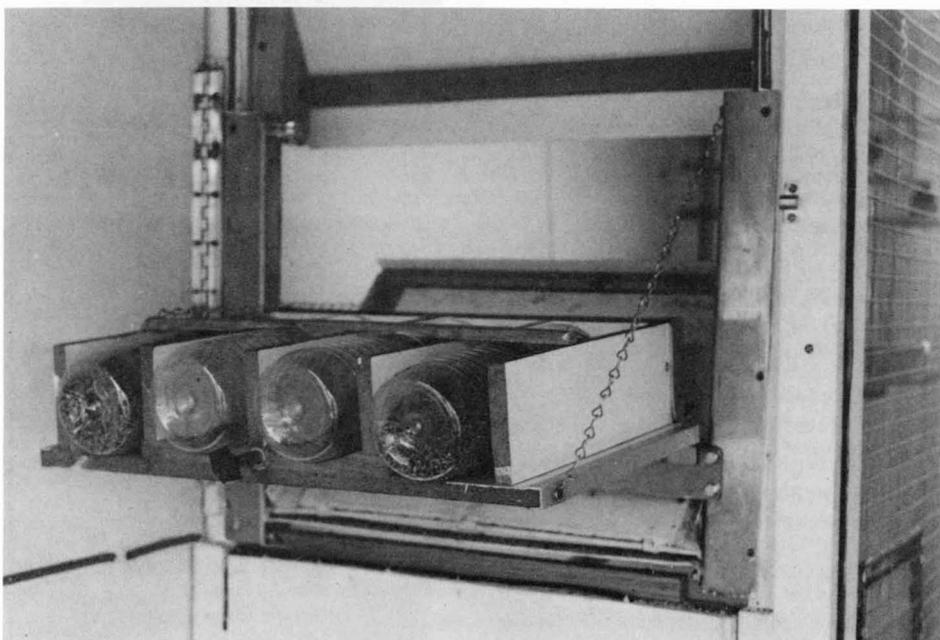
- Aardvark Imports, Santa Monica, CA  
 About Birds, Hebron, IL  
 Adsit, DVM, Schenectady, NY  
 Allen's Aviaries, Rutherford, CA  
 Albany Aquarium, Albany, NY  
 American Bird Center, Goulds, FL  
 And Feathers Bird Studio, Chicago, IL  
 Animal Affinity, Chicago, IL  
 Animal Cove, Columbus, GA  
 Animal Crackers, Greendale, WI  
 Animal Environments, Carlsbad, CA  
 Aves International, Rancho Pales Verde, CA  
 Avian Acres Exotic Bird Farm, Flemington, NJ  
 Avian Kingdom Supply, Inc., Dallas, TX  
 Avian Resources, San Dimas, CA  
 Aviary of Naples, Naples, FL  
 Avitech, Inc., Frazier Park, CA  
 Avocet Mfg., Ltd., Kirkland, WA  
 B & H Birds, Bishop, CA  
 Banish, Theresa, Pinole, CA  
 Bell's Exotics, Inc., Wrightsville, GA  
 Bird Country, Lewistown, MT  
 Bird Fever, Indianapolis, IN  
 Bird Haven, Inc., Bensenville, IL  
 Bird Hill Products, Paso Robles, CA  
 Bird Is The Word, Batavia, IL  
 Bird Shop, Sacramento, CA  
 Birdlady's Babes, Atascadero, CA  
 Bird-on-a-Stick, Merrillville, IN  
 Birdeez Nutrition Center, Chandler, AZ  
 Birds Nest, Sacramento, CA  
 Birds R Us, Sparta, IL  
 Blackstone Aviaries, Escondido, CA  
 Blue Skies Aviary, Whitwell, TN  
 Boston Exotics, Action, MA  
 Breeder Bird, Sylmar, CA  
 Brown, W. D., Ragley, LA  
 C & F Parrot Farm, Chorus Christi, TX  
 Cagemasters, Inc., Loxahatchee, FL  
 Caged Bird Hobbist, Miami, FL  
 Cedar Hill Aviary, Northbranch, NY  
 Clifton Bird Farm, Mesa, AZ  
 Cock-a-Doodle Too, Richmond, VA  
 Corners Ltd., Inc., Kalamazoo, MI  
 Country Critters, Ltd., Medford, NY  
 Critter Clippers, Patachogue, NY  
 Crystal Parrot, Southampton, MA  
 Cuneo, Richard A., Vineburg, CA  
 Cuttlebone Plus, Fallbrook, CA  
 Darlene Sousa - Jewelry & Gifts, Sunol, CA  
 Denise's Parrot Place, Mercer Island, WA  
 Di Vinci Ltd., Las Vegas, NV  
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 Expandable Habitats, Rockton, IL  
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 F M Brown's Sons, Inc. Sinking Springs, PA  
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 First Flight, Belleville, IL  
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 Four Paws Products, Hauppauge, NY  
 Frey, Dr. Walter H., Idabel, OK  
 Friedman, Alan P., Baltimore, OH  
 Ginny's Jungle, Andover, NJ  
 Hawley's Bird Haven, Queen Creek, AZ  
 Hidden Forest Wildlife Art Gallery, Fallbrook, CA  
 High Sierra Bird & Supply, Inc., Reno, NV  
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 J E R Birds, Inc., Ocean Grove, NJ  
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 Loriidae Production Network, Woodlake, CA  
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 M & S Aviaries & Pet Supplies, Bandera, TX  
 M.R. Pets, Inc., Dale City, VA  
 Magic Zoo, Rough and Ready, CA  
 Max Sharpe, Plant City, FL  
 McCabe, E.P., Jr., MD, San Antonio, TX  
 Moyer & Son, Sounderton, PA  
 Mt Olympus Aviaries, Salt Lake City, UT  
 Murad, Aspen, CO  
 Nekton USA, Inc, Clearwater, FL  
 Newhall, Acampo, CA  
 Northcoast Bird Adoption & Rehab, Twinsburgh, OH  
 Ohio Assoc of Animal Owners, Pleasant Hill, OH  
 Orchid Tree Exotics, Swanton, OH  
 "P" Patch, The, Benton, MS  
 Paradise for Birds Rehab, Cary NC  
 Parrot Training Videos, Seattle, WA  
 Parrot-dise, Anderson, SC  
 Pasadena Parrots, Inc., Pasadena, CA  
 Patty's Parrots, Booneville, MS  
 Pet-iatric Supply, Wichita, KS  
 Picture Perfect Parrot, Berea, OH  
 Pittman International, Anaheim, CA  
 R & M Aviaries, Hunlock Creek, PA  
 Raintree Publications, Fort Bragg, CA  
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 Ronie's For the Love of Birds, American Fork, UT  
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 Saunder's, W. B., Stockton, CA  
 Scarlet Orchard Aviaries, Otis Orchards, WA  
 Schults Bird Farm, Langhorne, PA  
 Skyline Garden, Martin Muschinske, Jamul, CA  
 Stembridge, Carson, CA  
 Stoneridge Exotics, Summerfield, FL  
 Sugarcreek Bird Farm, Bellbrook, OH  
 Super Pets, Anaheim, CA  
 Swan Creek Supply, Saginaw, MI  
 Swellands Cage & Supply Co., Ramona, CA  
 T & M Birds, St. George, UT  
 Topp Flock Aviary, Inc., Loxahatchee, FL  
 Torrey's Parrot Place, Spokane, WA  
 Tradewinds Exotic Birds, Terry, MS  
 Tucker Farms, Estancia, NM  
 Tweety Bird Aviary, Huntsville, AL  
 Up At Six Aviaries, Bosque, NM  
 Verde Squirts Aviary, Long Beach, CA  
 Waterloo Wings Stained Glass, Chelsea, MI  
 Web Ranch Bfmsr's & Birds, Mooreland, OK  
 Wings of Paradise, La Porte, TX  
 Yvonne's Swings and Things, Rochester, NY  
 Zoogen, Inc. Davis, CA  
 Zupreem, Mission, KS



*Nest boxes installed around the outer edges of the flight. These boxes give the birds a certain amount of privacy.*



*The panel on the side of the flight is the food service door in a closed position.*



*When the food service door is opened, the specially designed racks hold large plastic soda bottles full of seed. This is a very convenient yet inexpensive way to feed finches.*

further with this project. I desired the following:

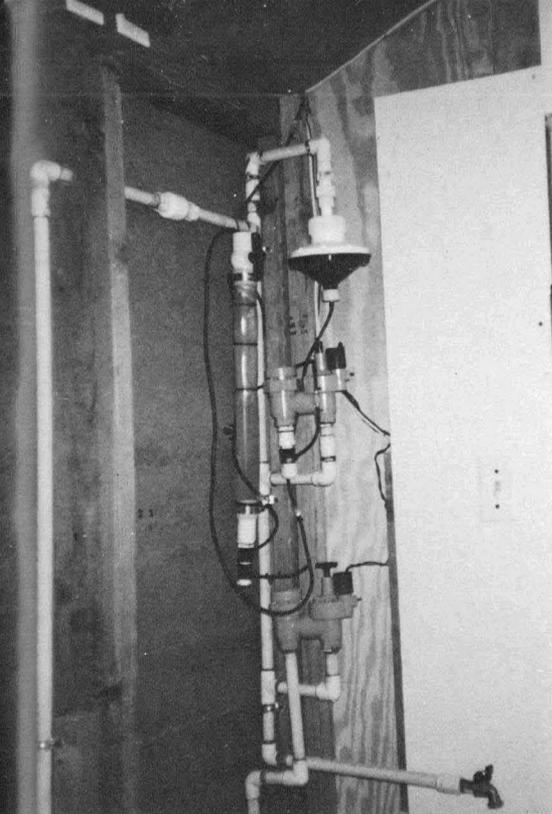
- A light system to control the amount of light and length of time.
- A water wash system to flush the areas where bird droppings would regularly accumulate.
- A continuous fresh water and vitamin supply source that could not easily be contaminated.
- An automated mister system that would cool the overall unit during periods of extreme heat.

Our home is located in a canyon in Chino Hills, California and it is not uncommon during the summer months for temperatures to exceed 100° F. Because we have a desert type climate we also experience rather cold nights so a non-toxic method of heating the indoor portions of the aviary would be most desirable.

To some, this may sound like a wish list for Santa and could not only be an engineering nightmare but also excessively expensive. After spending so much effort creating a high quality structure I really did not want silly timers hanging all over the place collecting dust and requiring constant fussing. I spoke to contractors, hardware people, alarm system professionals and was frustrated to discover their answer was that I needed a complete home management system and that I could expect to spend thousands.

I was telling a friend about my dilemma and he suggested I try Radio Shack. Lo and behold, Radio Shack sells a small electronic timer switching unit that can control numerous devices through the normal wiring system. It is necessary to install the complementing wall outlet receivers or their plug-in receiving units but I was elated to realize my dream of an automated aviary could be realized for under \$100 dollars.

Now for heating. I had read a number of horror stories about people having disastrous outcomes from the use of space heaters. I decided not to flirt with potential disaster and chose to use a heat only/no light UV bulb along with a 110 volt in-line thermostat. This type of thermostat is not a normally stocked hardware item but my friendly hardware man made a special order for me.



This Rube Goldberg contraption starts at the top with a pressure reducing valve. Below it are automatic devices for turning on the misters and the floor washers.

### Step 7 Plumbing

Having the electronics handled was terrific but now what will they operate? Plumbing requires planning and observation. In order to provide for a continuous water supply I purchased a system that is a standard item for most poultry supply houses. The system consists of a pressure regulator, low pressure tubing and pin valves that the birds may manually activate. My birds have always used self watering devices. Originally, they drank from hamster bottles by pushing in the ball valve. During construction of the aviary I installed the new pin valves into their cages so they were extremely adept at their use. If you are still using water dishes for your birds I strongly suggest you consider alternate methods. You will love eliminating the chore of cleaning water dishes, and the ease of vitamin and medication application. A system like this could help prevent bird loss due to contamination or simple lack of adequate water supply. A person associated with my bird club lost 150 birds last summer when his water dried up during a hot spell. You can imagine his pain.

There is a learning curve when introducing your birds to a new water system. While introducing them to the new system be sure to provide their regular dishes until you have observed them using the water bottle or valve and can be confident that they are able to make the transition. Birds introduced at a later date will learn quickly from the others and newborns always take to the system through parental example.

A modification I made to my system

was a vitamin injection cylinder. The dilemma I faced was to introduce vitamins into this pressurized line. Simply attaching a bottle of liquid vitamins to the line was not the solution because the water under pressure would simply pass the vitamins by. A hole in the vitamin supply bottle would not work because water under pressure would force liquid out of the bottle. In order to inject vitamins into the line I used a handful of readily available parts from the hardware store and used the line



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## Day ONE

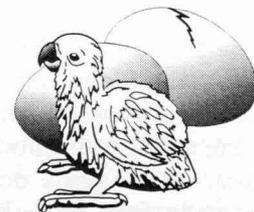
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Cockatiel: B-2532 5 kg (11 lb) B-2533 11.34 kg (25 lb)

Parrot: B-2622 5 kg (11 lb) B-2623 11.34 kg (25 lb)

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pressure to my benefit. This type of contraption is commonly referred to as a Venturi.

In order to automate the floor flushing system I used a standard automatic sprinkler valve and did the same with the mister system. To avoid back-flow problems and the mess they could cause indoors I used numerous check valves. Small check valves available for use with plastic tubing may be purchased from tropical fish stores. They are commonly used to keep fish tanks from siphoning in the event of power outages.

### Step 8 Feeding

Feeding is a major concern and a constant commitment. A variety of foods and an ample supply can spell success or failure to a breeder. Managing supply and variety is a priority but preventing seed hulls from becoming an unsightly mess has been a challenge I have spent countless hours attempting to surmount.

A year or so ago I developed a feeder made from soda bottles that helped to contain air borne seeds from flying out of the cages onto the floor.

I also invented a soda bottle backstop that has helped to keep spay millet hulls from leaving the cage. Both ideas have been modified and work fairly well. I like the idea of recycling plastic refuse and took this simple idea to a bigger scale for the aviary. Plastic bottles make great storage containers helping to keep seeds fresh and free from infestation.

To simplify my feeding I developed a unit that I can simply slip the feed storage containers into and still offer a healthy variety at a variable rate of dispersion. For spray millet I have taken the soda bottle idea to a grand scale with a modified water bottle which is funneled directly into a removable waste container.

Now the installation of perches and a swing provide all the comforts of home and an exit hole allows my feathered friends to have access to the open flight during the day and a safe warm place to feed and rest at night.

Building this project has been a labor of love and since my pockets have linings (not bottomless) it took about six months for me to complete. Many of the materials and much of the labor was negotiated through mutual favors. I am lucky in that my father took me on so many side jobs when I was a kid that I now have a pretty fair knowledge of construction, plumbing and electrical wire code. What is most important to know is when you need professional help. If building a custom aviary is a dream you have harbored, let me provide this final list of suggestions in an effort to help prevent your dream from becoming a nightmare.

### Planning

#### List of Suggestions

- Will neighbors or local ordinance shut your project down?
- Do the birds you breed make a level of noise in a group that could cause annoy neighbors?
- Sell your idea to a reluctant buyer, that is, convince a devil's advocate that your plan will be a good one. Sometimes running with an idea that has not been scrutinized could lead to unexpected problems.
- Plan, plan again, plan some more. A quickly planned and built project doesn't afford the option of modifying



*Breeding cages are stacked for ease of service and to take advantage of space.*

your idea. Remember you can't plan for every challenge so be ready to listen and make changes.

• What do you expect as a result to your efforts? Personal satisfaction? Where will it fit into your life both from a physical location as well as a personal commitment? Do you want this structure for profit or for pleasure—or both? How will you afford the various aspects and where are you willing to make cuts?

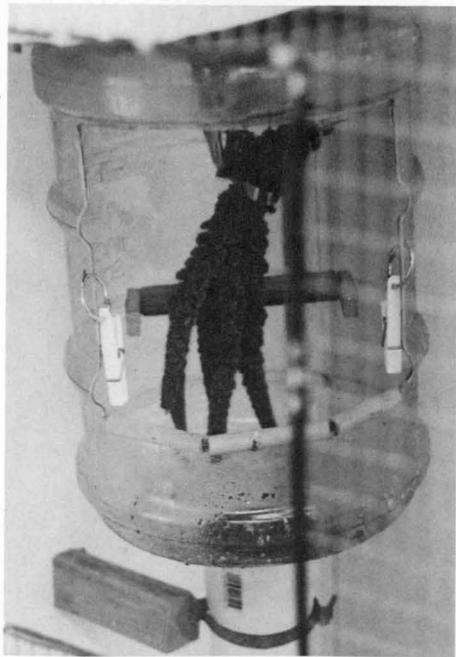
• What can you do yourself and where should you insist on professionals?

• Be sure you know the detailed requirements of your specific pets.

• Talk to bird people, people who keep birds are in my experience some of the warmest, friendliest, most helpful individuals I have ever met.

There is a great deal of gratification associated with the completion of a project you conceptualized, designed, and brought into reality, but my dream would only be air if it weren't for the help I received from friends and family ➤

Photos by Tom Gaulin



*This 5-gallon water bottle contains spray millet and has holes in it so the birds can enter. The chaff from the millet drops through the bottle neck and into a trash receptacle.*