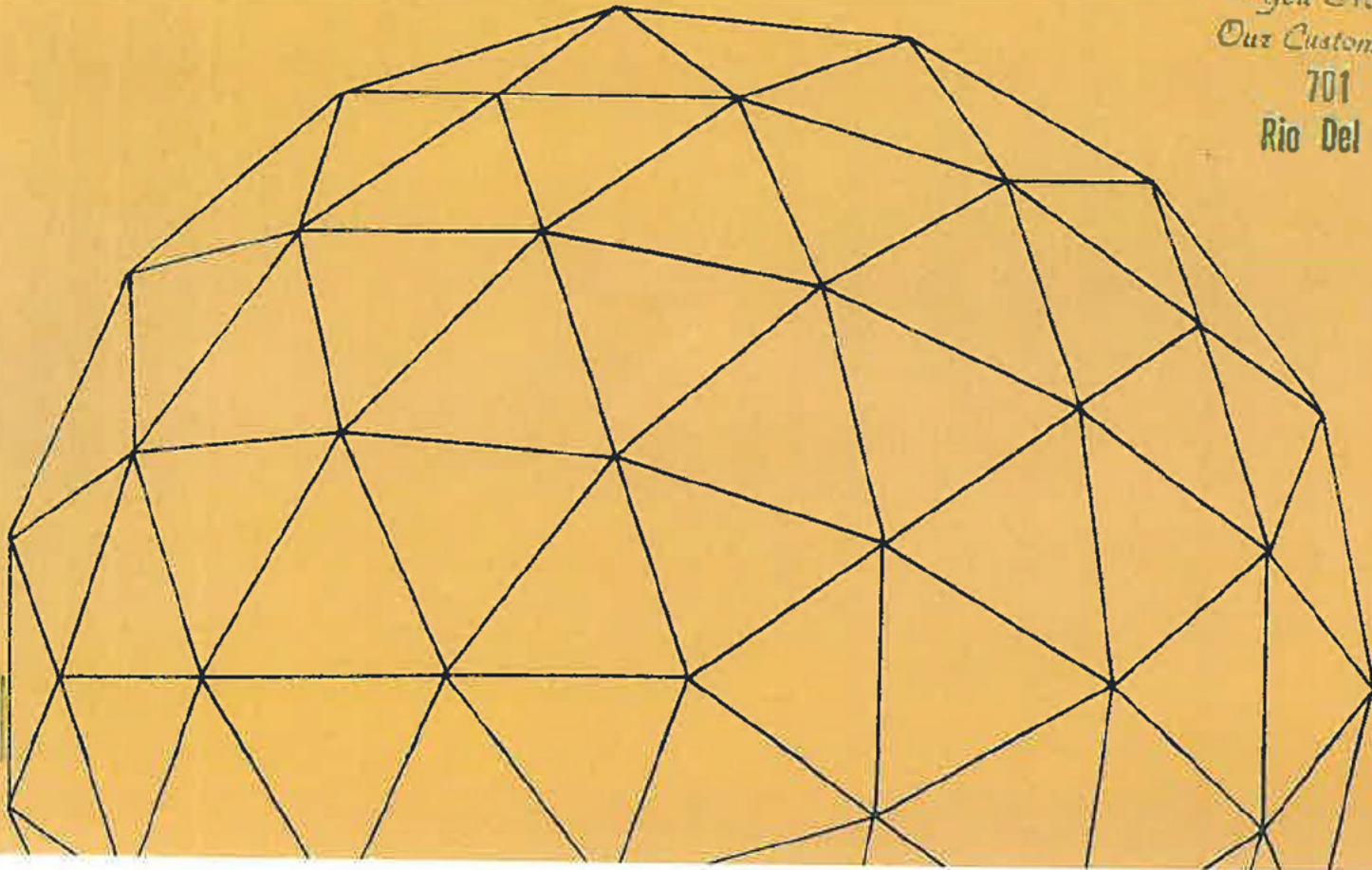


# GEODESIC BUILDING CONCEPT

*You Are Invited To Visit  
Our Custom Model Dome At:  
701 Vista Del Mar  
Rio Del Mar (Aptos) Ca.*

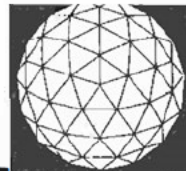


**CATHEDRALITE DOMES**

P. O. BOX 1582, SANTA CRUZ, CALIFORNIA 95061  
TELEPHONE [REDACTED]



# GENERAL INFORMATION



The CATHEDRALITE DOME puts the shape of things to come within your reach today by adapting the strongest, most efficient system of structuring yet developed — the geodesic dome. The CATHEDRALITE DOME is made by joining triangular-shaped panels in such a way as to form a circular building in which all planes, or facets, are straight, flat surfaces.

Maximum strength and space are inherent in the CATHEDRALITE DOME, which was developed by R. Buckminster Fuller and is an engineered system of triangular space frames. These frames create a self-reinforcing roof and siding unit based on mathematically precise divisions of the sphere. This results in extra strength, because stress is distributed equally throughout the building, and weight is transferred directly to the base at angular points around the dome. It adds up to space, too — in unobstructed floor area and volume within the least amount of surface area, because it eliminates the need for internal supports or "load-bearing" walls.

Custom design service is available from CATHEDRALITE DOMES, under the direction of a Registered Architect. If something other than our stock plans are required or desired, we have a competent Design Department ready to tailor your specific requirements into a unique and beautiful home. Design services include structural, mechanical and electrical engineering as well as architectural design.

I.C.B.O. approved. Our structure has met the requirements and gained the approval of the International Conference of Building Officials, and carries Research Recommendation #2396. With this I.C.B.O. approval CATHEDRALITE DOMES should have ready acceptance with local building officials.

Low cost in every way. Designed to satisfy the ever-increasing demand for low cost shelter, CATHEDRALITE DOMES are usually erected on a concrete slab, although a wood joist system can also be utilized on a sloping site. What's more, you save on costly labor. A few unskilled men with average tools can easily assemble a CATHEDRALITE DOME in one day's time.

Easy to erect . . . no special skills needed

Exclusive space framing panels spell extra benefits for you. Once your floor system is in place, the factory-assembled triangular space frames are simply bolted together to form the finished building shell. No crane, hoist or gin pole is required. Complete assembly directions are included with each dome package .

CATHEDRALITE DOMES are permanent pleasures

Not a temporary shelter, every CATHEDRALITE DOME is a strong, weatherproof building that will last just as long as any other wood-framed building. With a variety of materials available for exterior covering that reduces maintenance cares permanently, CATHEDRALITE DOMES have been tested and proven durable. In addition, wiring, plumbing, heating, partitioning and individualizing a CATHEDRALITE DOME can be done as in any other house.

Shipping CATHEDRALITE DOMES. Those who live close to the CATHEDRALITE DOME factory in Oroville, California, might want to rent a truck or trailer. For those farther away, we can ship your dome by a commercial trucking firm. Our domes are sold F.O.B. factory.

## STRUCTURAL INFORMATION



26' DOME



39' DOME



TYPICAL PANEL

CATHEDRALITE DOMES' geodesic structural concept is the strongest structure in relation to its weight in the building field today. The CATHEDRALITE DOME has been tested by a nationally recognized testing laboratory. The 26' dome has been tested with loads of 100 pounds per square foot, and the 39' dome has been tested with loads up to 120 pounds per square foot. Conclusions for all tests showed no evidence of structural failure! This makes the CATHEDRALITE DOME an excellent building for most snow areas, with some additional support units. In extremely heavy snow areas further support units may be required, depending on local building requirements.



**CATHEDRALITE DOMES** are made of lightweight materials that have tensile continuity and resiliency to make them ideally suited for use in severe earthquake areas. During the 1966 Alaska earthquake a large fissure opened up under a geodesic dome building, which caused it to be dislodged from its footings and slide into the fissure. The dome remained intact without breaking apart! There is no such thing as a concentrated load (as in conventional construction) in a geodesic dome, whether it be a uniform or an accentric (lateral, earthquake or wind) force, because the stresses are distributed equally throughout the entire structure. This eliminates the need for lintel beams over openings such as are necessary in conventional construction.

Skylight **windows** can be located almost anywhere on the surface of the dome, using your imagination as to shape, size and number, as long as the design is within the limits of the individual triangular panel area and no more than one-third of the total plywood "skin" is removed from the dome surface.

**Dormer windows** can be introduced into second floor areas for light and ventilation at almost any location as might be dictated by the plan; again, let your imagination be your guide.

## **TECHNICAL INFORMATION**

**CATHEDRALITE DOMES** are ready-to-assemble, wood geodesic domes consisting of triangular-shaped space frame panels bolted together to form a circular dome building.

**Triangular space frames** are made with perimeter and center frame members of 2" x 4" kiln-dried Douglas Fir, and intermediate nailing members of 2" x 4" Douglas Fir at 16" O.C. The "skin," or exterior facing, is 1/2" DFPA exterior grade plywood, and is glued and stapled to the frame members which are pre drilled for 3 bolts in each side.

**Thermal insulation**, if ordered, is provided by 1" of factory cut and applied rigid Styrofoam insulation which is placed to the underside of the plywood "skin" between the frame members. Some may prefer to install their own fiberglass insulation.

**Opening canopies** at sides and overhead of all openings are 1" A.C. exterior grade plywood, precision cut for ease of installation.

**Base plates** are cut from 2" x 4" kiln-dried Douglas Fir or Western Hemlock, to the proper angle to receive the first space frame panel.

**Hardware** includes 3/8" x 4" hex head machine bolts with washers and nuts (for bolting the space frames together); 1/2" x 12" hook anchor bolts are *NOT INCLUDED* in our package.

**Joints** between the triangular space frames can be weatherproofed by caulking should you desire to use a sprayed roofing surface on your dome. We do not provide any caulking in our package.

**Floor construction** (not a part of the dome package) can be concrete slab on grade, or a wood joist system with a perimeter foundation. Plans come complete with details and dimensions for either system. Complete architectural drawings are available for \$75.00 for three sets.

**Interior finish** (not included in the package price) can be of any material you choose, but generally one of the following:

1. 1/4" wood-grained hardboard
2. Gypsum wallboard
3. Acoustic panels or tile
4. Exposed dome, no finish
5. Custom wood finish

**Exterior finish** (not part of the dome package) can also be of any material of your choosing, but generally one of the following is used:

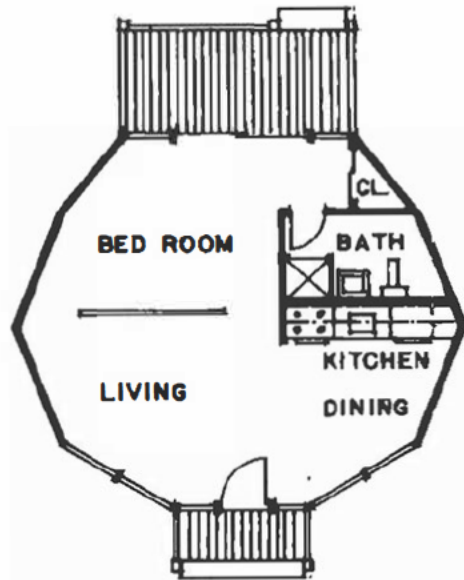
1. Asphalt composition shingles
2. Cedar wood shingles
3. Stucco

**Increased area** can be achieved in the loft or second floor area of the domes by raising the dome up on a short perimeter base riser wall. This can increase the floor area by another 500 to 700 square floor feet. In other words, your Sierra Dome shell will cover nearly 1600 square floor feet when the second floor area is finished.

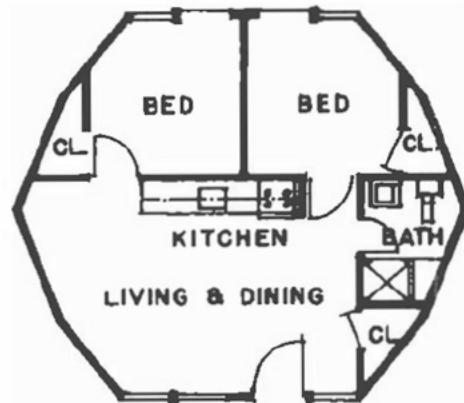
**Heating** can be accomplished in a variety of ways. Baseboard electric, radiant slab, floor furnaces, baseboard hot water, and forced warm air systems have all been used successfully in our domes.

A **CATHEDRALITE HOME** will be the most modern, beautiful home in your community. Why not be the first to own a dome home!

# CATHEDRALITE DOMES - 26' DIAMETER DOME (2 openings)



**ONE BED ROOM PLAN**



**TWO BED ROOM PLAN**

## ALPINE DOME TECHNICAL INFORMATION

485 square feet of floor area

850 square feet of surface area  
(interior and exterior)

4750 cubic feet of volume

13' height of dome at center

38 triangular space frames approximately  
8' long on each side

\$2,895.00 Package Dome price

\$ 325.00 Insulation

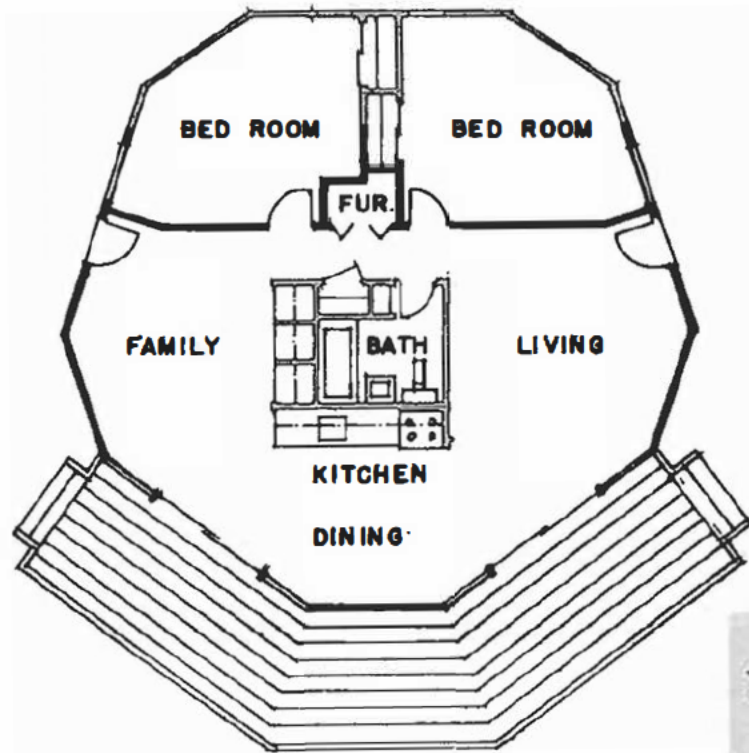
\$ 650.00 Perimeter Riser Wall

Interior partitions rise approximately 7' high in the 12' overall interior dome height, allowing space above for free air circulation . . . actually making the rooms seem larger than they really are. Storage needs can be satisfied by built-in shelves in the bedroom closet, bath and kitchen, plus space above the bathroom for bulk items. Ideal for your vacation home in the mountains, at the seaside, or at the lake.





# CATHEDRALITE DOMES – 39' DIAMETER DOME (5 openings)



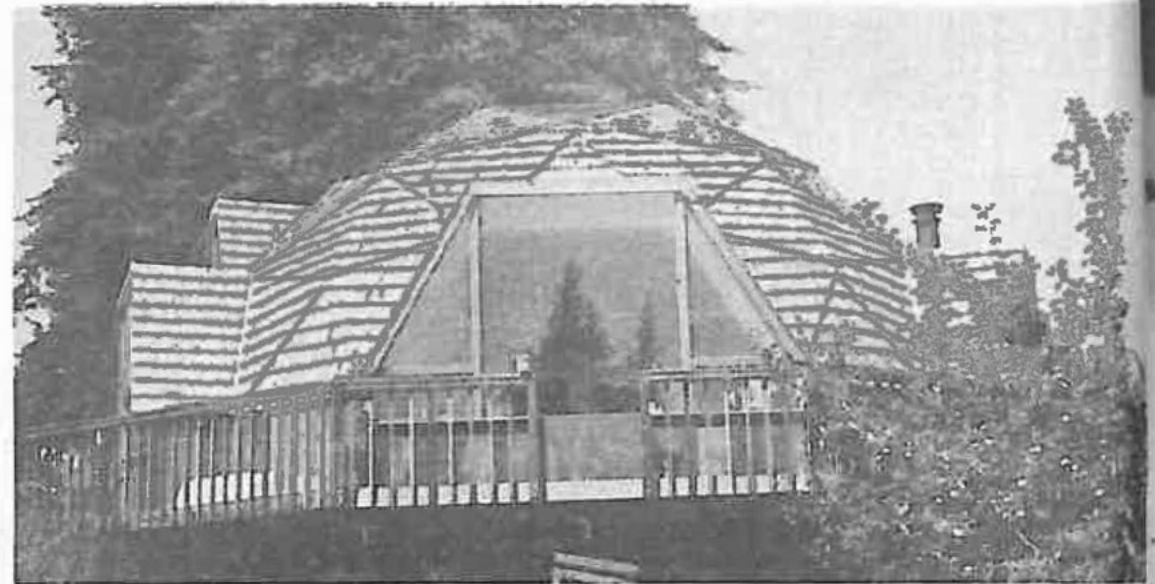
TWO BED ROOM PLAN

## 39' SIERRA DOME TECHNICAL INFORMATION

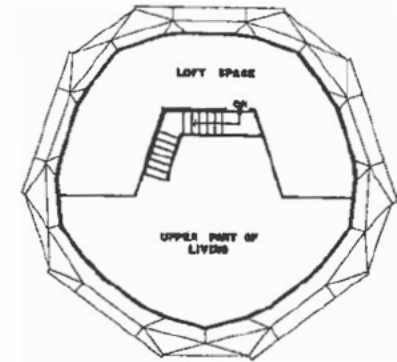
- 1100 square feet of floor area
- 1680 square feet of surface area  
interior and exterior
- 12000 cubic feet of volume
- 16'6" height of dome at center
- 60 triangular space frames approximately  
eight feet long on each side
- \$4,295.00 Dome Shell Package price
- \$ 575.00 Insulation price
- \$1,095.00 Three-Foot Perimeter Base Riser
- \$1,195.00 Four-Foot Perimeter Base Riser
- \$1,295.00 Five-Foot Perimeter Base Riser
- \$1,895.00 Set of Five, Four-Foot Extensions for Openings
- 379.00 For One Extension

Interior partitions rise approximately eight feet high in the overall 19' interior dome height if the three foot perimeter base riser is used. There is ample room for two extra bedrooms and a bath upstairs should the riser be used.

Clever and unique things can be done with furniture and decor in a CATHEDRALITE DOME!



# 39' CATHEDRALITE DOME - SUGGESTED FLOOR PLANS



LOFT FLOOR PLAN  
SCALE: 1/8" = 1'-0"

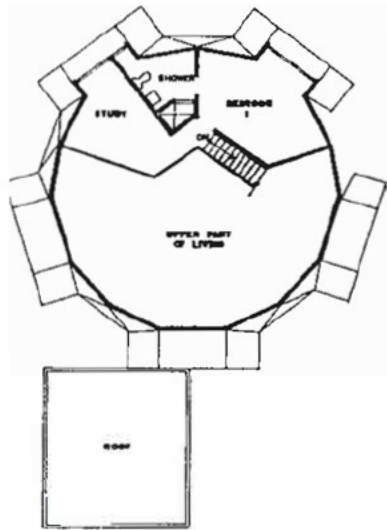


FIRST FLOOR PLAN  
SCALE: 1/8" = 1'-0"

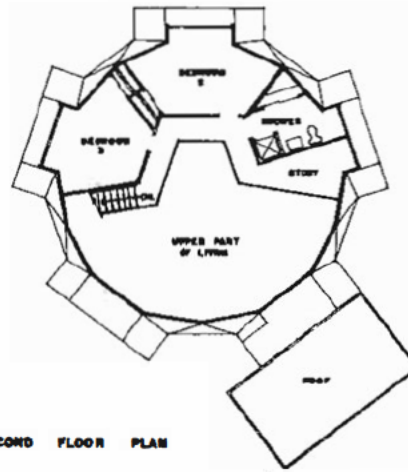




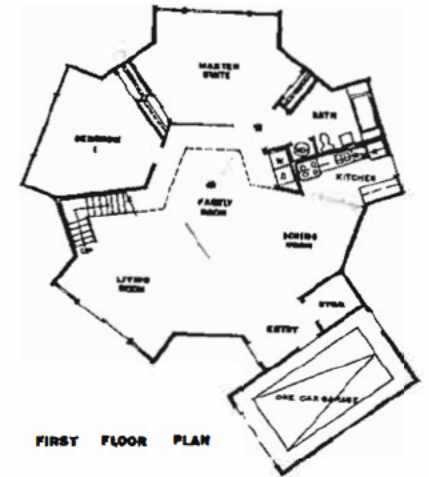
# 39' CATHEDRALITE DOME - SUGGESTED FLOOR PLANS



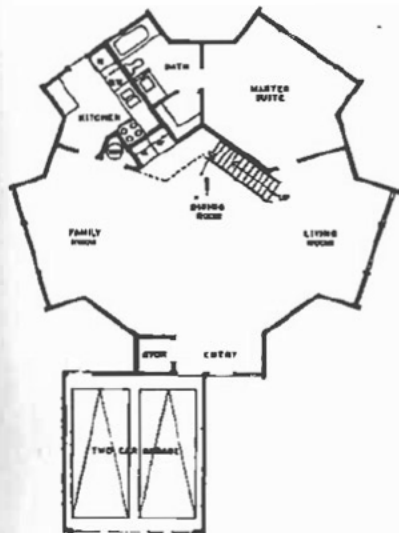
SECOND FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN

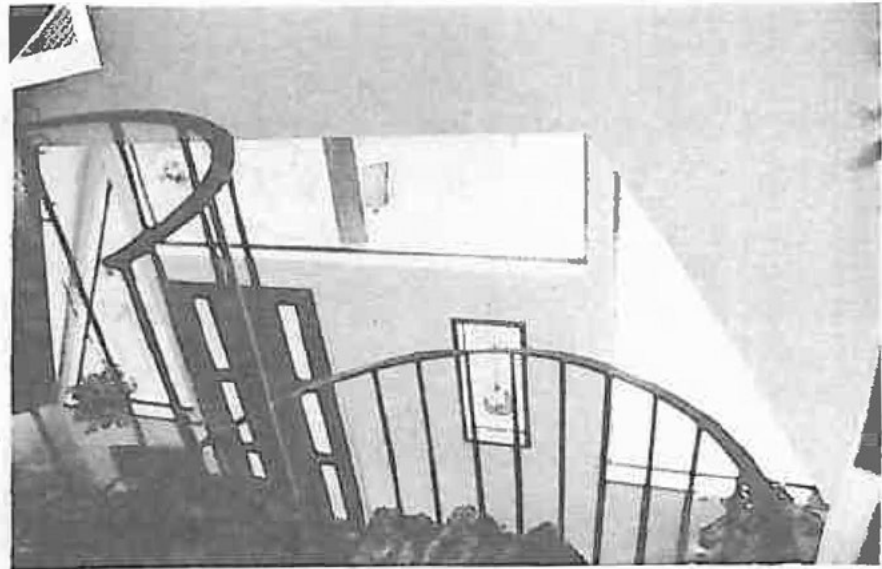


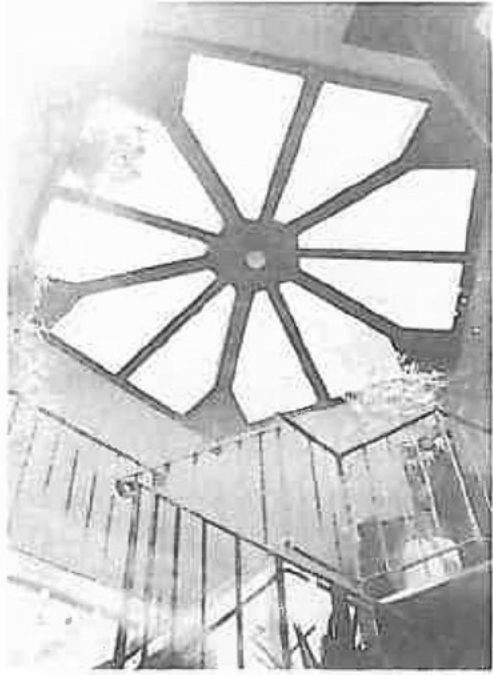
FIRST FLOOR PLAN



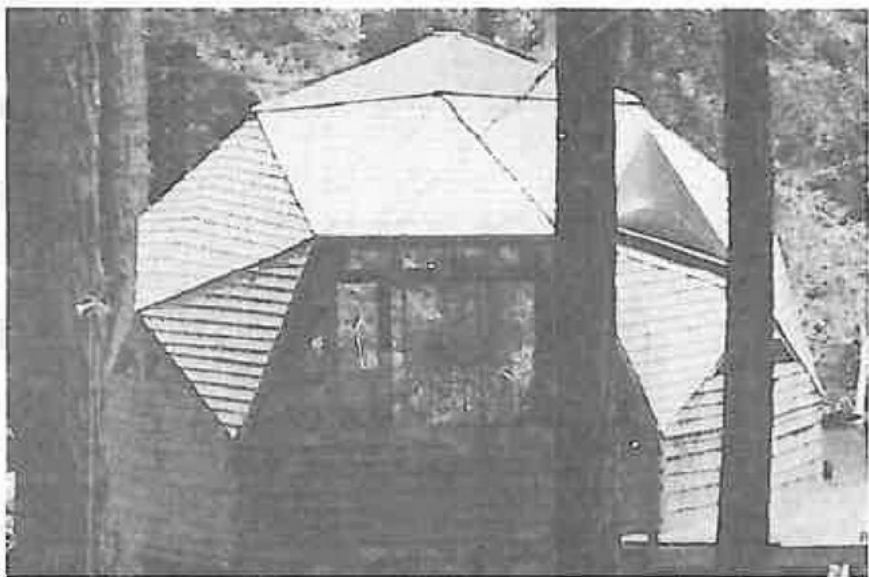


# INTERIOR ARRANGEMENT

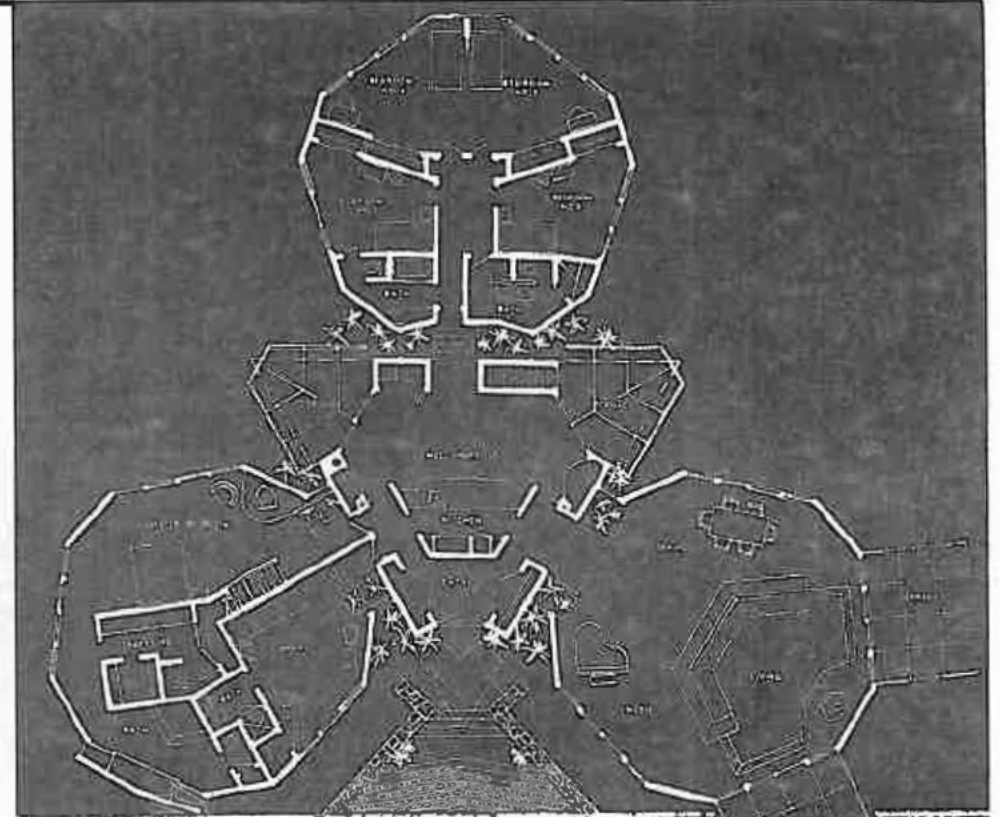








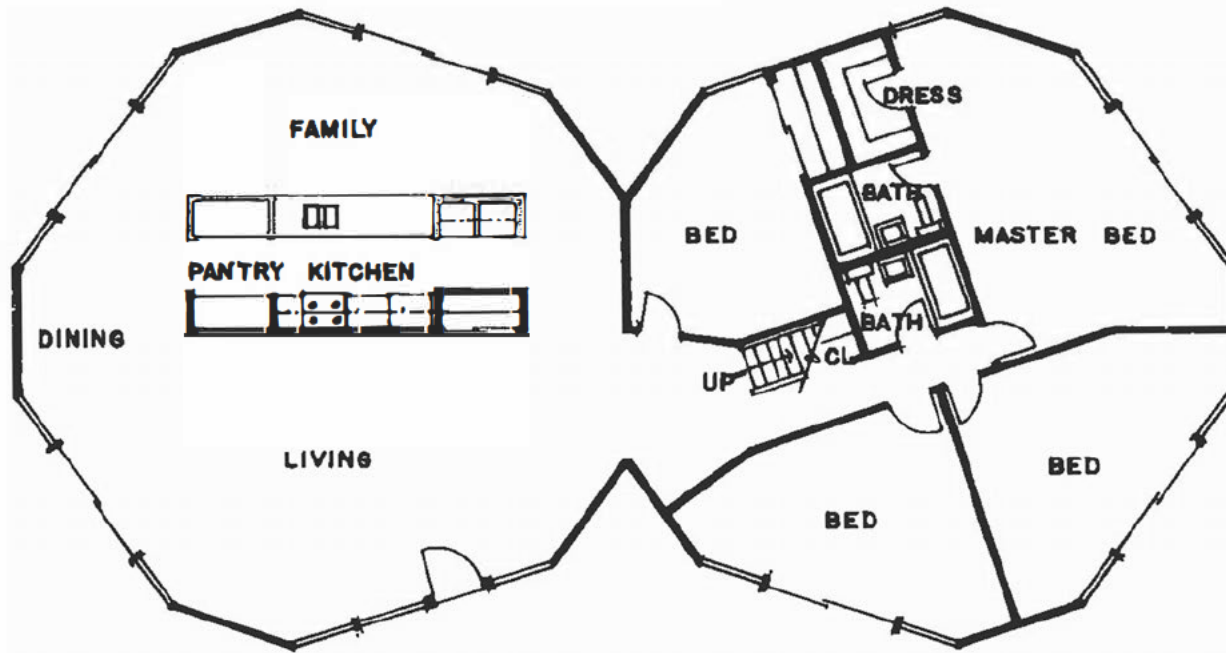
# CONNECTING YOUR DOMES



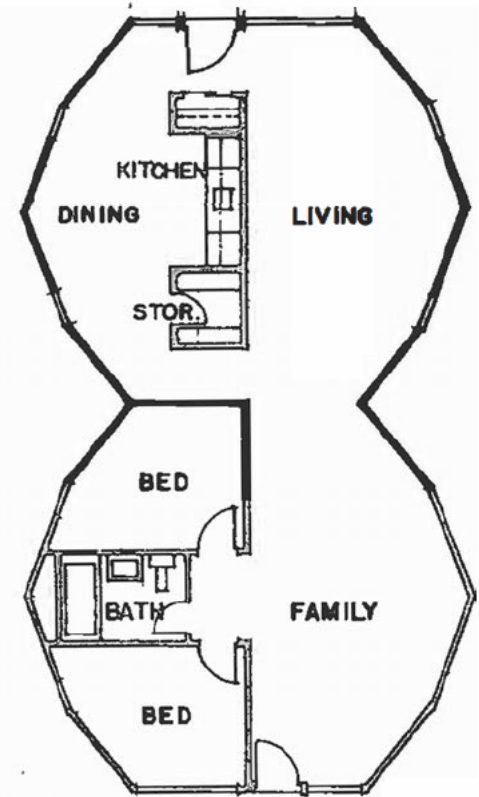
# CATHEDRALITE DOMES – SUGGESTED DOUBLE DOME ARRANGEMENT

CATHEDRALITE DOMES can be joined together to create larger spaces as desired. Every opening is designed to be a connection to another dome. Versatility and flexibility in arrangement are yours to command. Combinations are unlimited: 2-dome, 3-dome, 4-dome, or whatever you choose. Second floor space in the 39' dome can provide extra bedroom space and can be reached by stairs.

Your best value in housing is a CATHEDRALITE DOME!



TWO 39' DOME FLOOR PLAN



TWO 26' DOME FLOOR PLAN



# QUESTIONS AND ANSWERS

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The following questions are frequently asked concerning the purchasing of our dome structure.

*How do I finance my dome?*

We sell our package only on a cash basis. People use various ways of financing . . . using their own cash, building their structure, then refinancing through the local bank. Ninety percent of all our sales are cash which our customers have designated for their dome home!

*How much does the dome shell weigh?*

Each space frame weighs approximately eighty-five pounds. There are seventy-five space frames, plus canopies and hardware, in the package. Therefore, we estimate that the Sierra Dome (39 foot) weighs sixty-five hundred pounds and can be packaged in a twenty-foot van or U-Haul truck. The Alpine Dome (26 foot) weighs approximately three thousand pounds and can be transported in a sixteen-foot trailer (four wheel) or U-Haul truck. The Mars Dome (60 foot) weighs 26,000 pounds and a large semi-truck and trailer are required for transportation. The average is less than \$1 per mile on shipping costs.

*How much does it cost to ship a dome?*

The cost will vary with the distance. Our factory is located at Oroville, California, which is approximately 100 miles north of Sacramento on Highway 70 (nineteen miles north of Oroville). A call can be made to your local transportation company (a trucking firm) and the above weights can be quoted. They can give you a close estimate of the shipping cost. Many of our customers come up to the factory and pick up their own dome package with a rented truck or trailer.

*Please explain how I should proceed when I decide that I want a dome structure.*

First, select your building site. Next, decide upon your floor plan. Most customers select our stock plans which sell for \$75.00 for three complete sets ready for presentation to your Building Department. Your dome structure should be ordered as soon as possible because our factory runs about six to eight weeks behind schedule of order. Get your plans cleared and your building permit. Start with your foundation and place your order for delivery. It is very simple!

*Are there any distributorships available?*

Yes, just call our office concerning this matter. We will be glad to discuss the great potential in being a CATHEDRALITE distributor.

*What is included in our dome package as delivered at the factory?*

**26 foot Alpine Dome (485 square floor feet)**

- 34 to 38 triangular space frames which are covered with 1/2 inch exterior structural grade plywood, struted on 16-inch centers with select structural Hemlock or Douglas Fir lumber. The actual number of modules varies because of the difference of opening usage which is determined by each customer.
- All necessary bolts, washers and nuts to erect these modules into the dome structure.
- Canopies over each opening which provide the necessary structure in which the doors or windows can be framed and set.

**39 foot Sierra Dome (1100 square floor feet to 2100 square floor feet)**

- 60 to 75 triangular space frames as described above with all hardware for erection, canopies for each opening.

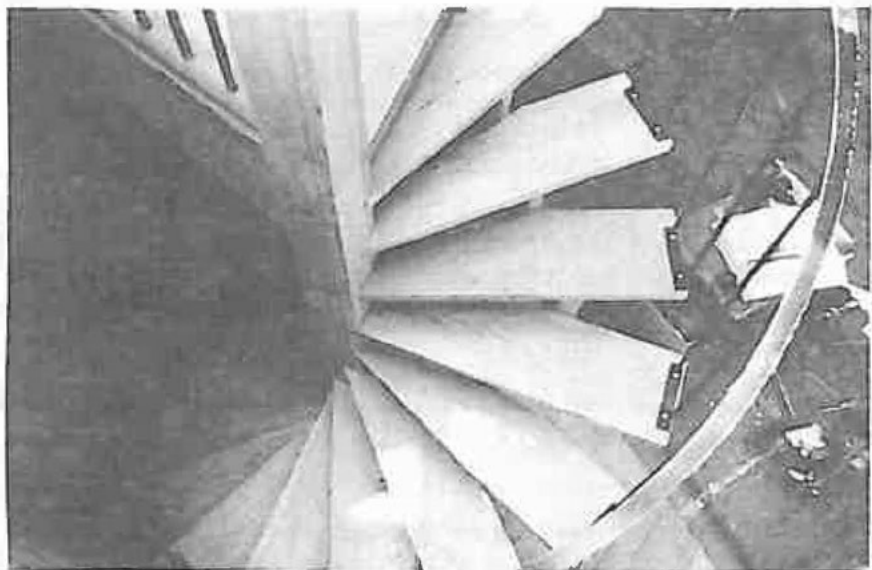
**60 foot Mars Dome (2800 square floor feet, can be made into a two- to three-story building)**

- 280 triangular space frames with all nuts, washers and bolts for erection, plus the spider bolt connectors which are special for this structure.

## WHAT OUR PACKAGE DOES NOT INCLUDE

Foundation, plumbing, interior or exterior finish materials, electrical or partitions. Our package is basically just the shell of your structure.

We estimate that the price of our package represents approximately 15% to 25% of the actual cost of your finished building. This is only an estimation. Some build for less, some for more, this being determined by the requirements of the customer.



# ORDERING PROCEDURE

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## PROCEDURE FOR ORDERING YOUR DOME PACKAGE

Our factory near Oroville, California, has the capacity to turn out many domes in a week, but, because of the tremendous demand for the dome, we are often six to eight weeks behind order date.

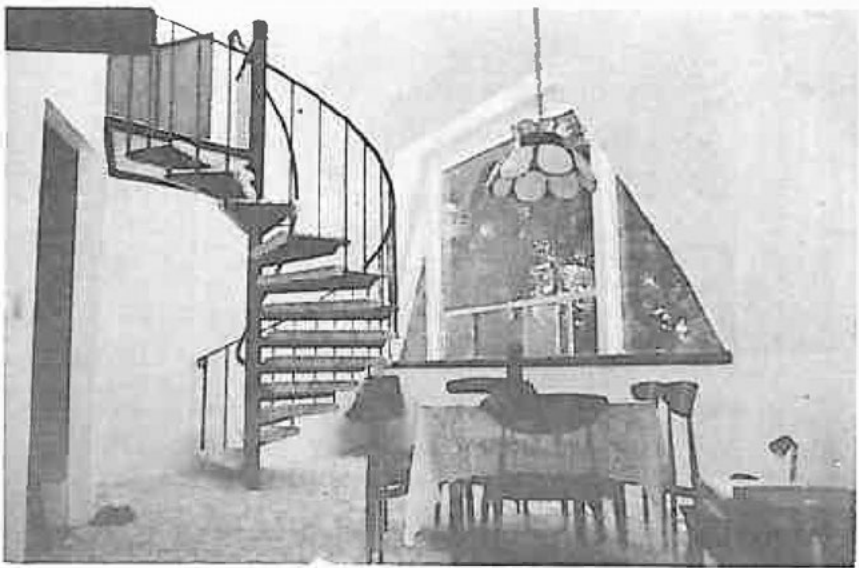
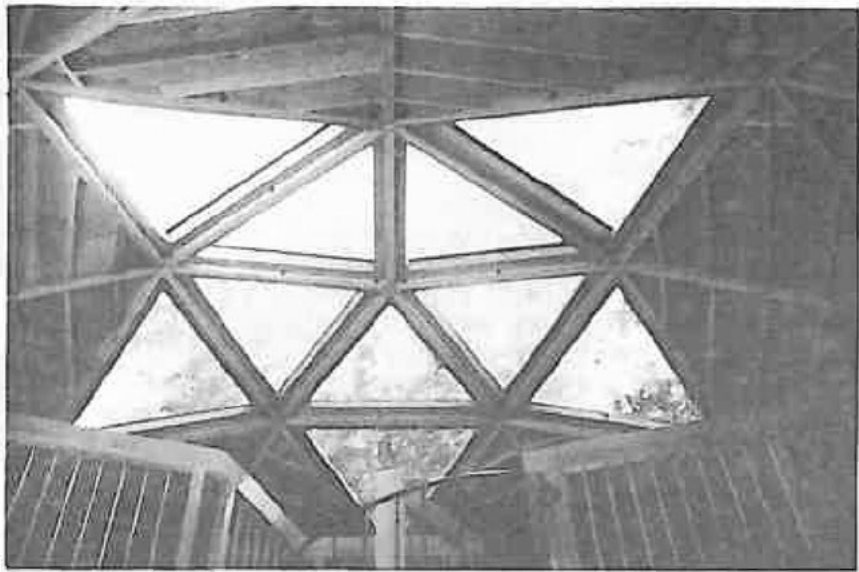
Therefore, should you decide to use a dome structure for your home or whatever purpose, you should order it immediately upon making your decision to build. By the time your plans have been completed and approved, we normally have your dome ready to deliver from the factory.

A fifty percent down payment is required with your order. No order leaves the factory without full payment for the structure.

A call to our office will be helpful in getting your order processed. The phone number is [REDACTED] Arrangements will be made to have one of our consultants call on you to answer any further questions that you may have.

**CATHEDRALITE DOMES** are the most exciting building concept in the world.





After the heyoka ceremony, I came to live here, where I am now between Wounded Knee Creek and Grass Creek. Others came too, and we made these little grey houses of logs that you see, and they are square. It is a bad way to live, for there can be no power in a square.

You have noticed that everything an Indian does is in a circle, and that is because the Power of the World always works in Circles, and everything tries to be round. In the old days when we were a strong and happy people, all our power came to us from the sacred hoop of the nation, and so long as the hoop was unbroken, the people flourished. The flowering tree was the living center of the hoop, and the circle of four quarters nourished it. The east gave peace and light, the south gave warmth, the west gave rain, and the north with its cold and mighty wind gave strength and endurance. This knowledge came to us from the outer world with our religion. The sky is round, and I have heard that the earth is round like a ball, and so are all the stars. The wind, in its greatest power, whirls. Birds make their nests in circles, for theirs is the same religion as ours. The sun comes forth and goes down again in a circle. The moon does the same, and both always come back again to where they were. The life of man is a circle from childhood to childhood, and so it is in everything where power moves. Our tepees were round like the nests of birds, and these were always set in a circle, the nation's hoop, a nest of many nests, where the Great Spirit meant for us to hatch our children.

But the Wasichus (whitemen) have put us in these square boxes. Our power is gone and we are dying, for the power is not in us any more. You can look at our boys and see how it is with us. When we were living by the power of the circle in the way we should, boys were men at twelve or thirteen years of age. But now it takes them very much longer to mature.

Well it is as it is. We are prisoners of war while we are waiting here. But there is another world.

from Black Elk Speaks

# CATHEDRALITE DOMES

Approved by Research Recommendation #2090  
of the International Conference  
of Building Officials