Parkersburg Amateur Radio Klub

Di-Dah-Dit

Offical Newsletter of the
Parkersburg Amateur Radio Klub
P. O. Box 2112 Parkersburg, WV 26101

Hi, Gang!

Well here we are in the midst of the Holidays. I was glad to see so many at The Old Country Buffet for the November meeting. Thanks to all those who helped with our forum on Computers. A special thanks also th Connie and Jerry for printing our raffle tickets. REMEMBER - All ticket stubs and money need to be turned in to Jane (N8MOW) or me not later than December 12th. unless you KNOW FOR SURE you will be attending the Christmas Party! If you need tickets call Jane or me.

I look forward to a great turnout and lots pf fun for all on Saturday, December 16, at the Char House on Rt. 50! Please let me know by December 13 how many from your family will be attending (don't forget gifts for your children for Santa to give out!).

My Best Wishes to you and yours, for a Joyous Holiday Season filled with Peace ans Love.

Lydia - AA8UL

Klub Officers for 1995/96

President -	Lydia White AA8UL
1st. VP	John McGuffey N8NBL
2nd. VP	Randy Sims KB8WHL
3rd. VP	Earl Hulce KB8HRG
	D. Thompson WD8CYV
Sec.	C. Hamilton WD8MIO
Tres.	Jane McGuffey N8M0W
Sarg/arms	Bob Lyens KB8EFB
NL Ed.	KF8NW-/- KA8NJW
Production	Mary Britton KB8BOA

The October 9,1995 meeting of P.A.R.K. was called to order at 7:05 pm by the president Lydia White, AA8UL in the Vienna Bonanza meeting room.

All introduced themselves and signed the register. Ray Bodie /N8TWV won the 50/50 drawing.

Minutes of the September meeting were approved as read. Jane McGuffey, N8MOW reported a balance of $2,882.09 in the treasurery and the books are ready to be audited. Lydia, AA8UL appointed Tim Britton, WA8CRW, Mark Schauwecker, K4BDI and Larry Deem, N8TGI to the Audit Committee.

COMMITTEE REPORTS:

REPEATER: A motion was made by Curt Fouse, K8UC that a report on the repeater be tabled, second by Larry Dale, KF8NW, motion carried.

VE TESTING: Larry, KF8NW reported that on National Test Day PARK held the session at Emanuel Baptist Church and that Mark, K4BDI had upgraded to Advanced after 36 years and there had been one other partially successful candidate. There were 13 VE's in attendance.

Lydia, AA8UL would like an intrest sheet from the members.

An application for membership was read for Frank Stevison, KA8BJA. Larry, KF8NW made a motion we accept application, second by all present motion carried.

John McGuffey, N8NBL suggested we give Roy Maull, N8YYS a vote of appreciation and this was done.

CHRISTMAS PARTY: A discussion was held on the Christmas party and a menu from the Char House was passed around. Curt, K8UC made the motion we hold the party at the Char House, Jane, N8MOW seconded, the motion carried. Larry, KF8NW made motion it be held on December 16, second by Georgia Milhoan, motion carried. John Milhoan, WD8LKT made motion we start a 6:00, Leslie, Maull, KB8ZSI seconded, motion carried. Lydia, AA8UL will call for the reservations. John, N8NBL will be the Santa with Archie Carpenter, W8GWR as backup.

CHRISTMAS RAFFLE: Groceries and other suggestions were made. Dean Hupp, KA8CXD made a motion we have a 15 lb. Ham and $100.00 Grocery certificate, Leslie, KB8ZSI seconded, motion carried. Jerry Hamilton, N8HEO will have the tickets printed.

Jane, N8MOW will send out dues cards.

John WD8LKT made a motion we adjourn at 8:00, second by Larry KF8NW seconded. Meeting adjourned.

Respectfully submitted,

Connie Hamilton, WD8MIO, Secretary

The Green Bank Telescope

Greetings from the National Radio Astronomy Observatory in Green Bank! This information packet was developed in response to the many inquiries we receive about the Green Bank Telescope (GBT) project. I hope the descriptions and drawings contained within will answer your questions. For additional information, feel free to contact: Sue Ann Heatherly, Education Officer, NRAO, Green Bank, WV 24944, (304) 456-2209.

Construction of the Green Bank Telescope began in the spring of 1991. During 1991, 4500 cubic yards of reinforced concrete were poured for the foundation of the telescope. During 1992 and 1993, the azimuth track was laid, grouted and leveled and construction of the alidade began. Now, in 1995, the alidade structure is essentially complete, and work has begun on the reflector. When completed, the GBT will be quite unique in several aspects. Innovations and improvements over any existing radio telescope will include:

- **Size:** The GBT will be 100 meters in diameter, have a solid surface rather than a mesh one and be fully steerable. The telescope at its tallest will be approximately 500 feet tall (see fig. 1).

- **Unblocked Aperture:** The surface of the GBT will be totally unblocked. Support for the receivers needed at the focal point of the telescope will be provided by an offset arm reaching over from the back of the dish (see fig. 2). The reflector is actually a portion of a much larger parent parabola; consequently the focus is not above the center of the dish (see figs. 3 and 4).

- This revolutionary design has never been tried on a telescope the size of the GBT. The reason for this design? – to reduce interference and unwanted internal reflections caused by intruding structural components. These structural components will be absent on the GBT.

- **Adjustable Surface:** The GBT's surface will permit active adjustment so as to keep its parabolic shape. All telescopes deform due to gravity as they are tipped. The GBT will be able to correct for these deformations. More than 2000 panels comprising the surface will be individually adjusted by actuators (motor driven screws). The positions of these panels will be determined by a laser ranging system (see figs. 5 - 8). No collecting area as large as the GBT's (2.3 acres) has so accurate a surface. Astronomy at short wavelengths becomes possible as a result.

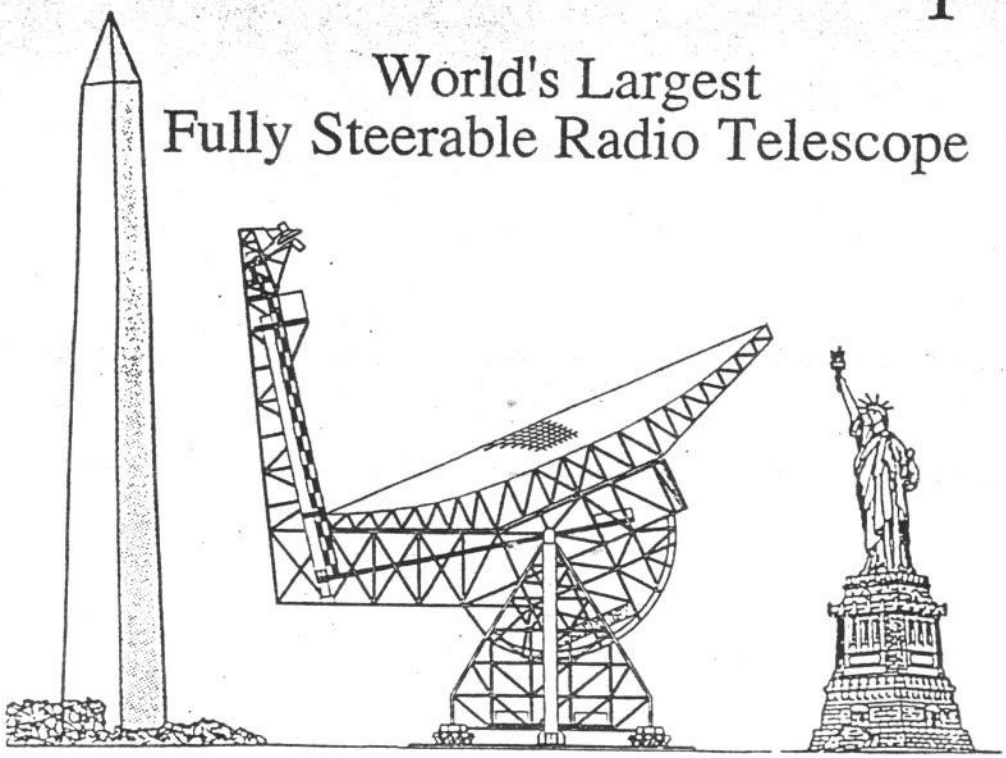
- **Rapid instrumentation changes** will be another feature of the GBT. As you can see from figures 9 and 10, most of the receivers to be used on the GBT will be permanently mounted in a receiver room and accessed by rotating the one to be used into place. The subreflector mounted above the focal point will direct and focus radiation to the selected receiver. This will allow astronomers to respond quickly to favorable weather opportunities and to fast breaking scientific discoveries.

- The final drawing in the packet is an artist's conception showing the telescope as it might look in 1996.

- All of these design features combined with its size will make the GBT very accurate, sensitive and versatile. The GBT will be completed in 1996 and will be the leading radio telescope for the 21st century.

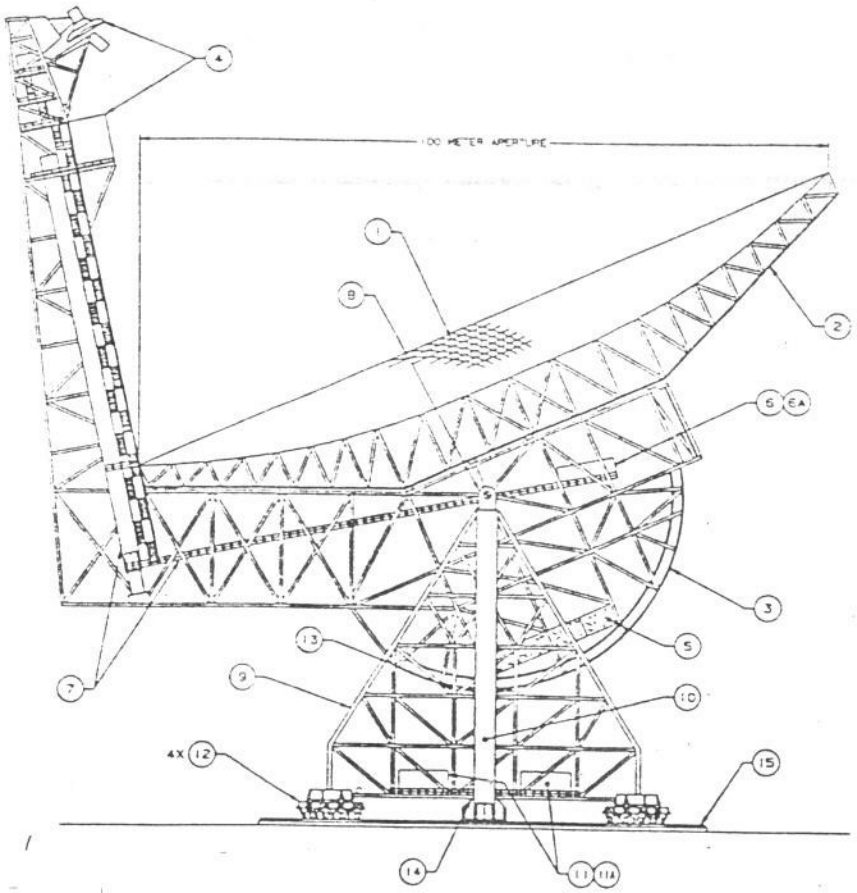
Green Bank Telescope

World's Largest Fully Steerable Radio Telescope



National Radio Astronomy Observatory Green Bank, West Virginia

Figure 1. Relative size of the GBT



Key

1. Primary Reflector Surface
2. Reflector Support Structure
3. Elevation Wheel Feed Support Arm
4. Secondary Reflector Receiver Room
5. Counterweight
6. Active Surface Control Room
7. Access Way to Focal Point
8. Elevation Bearing
9. Alidade
10. Elevator
11. Equipment Rooms
12. Azimuth Trucks and Drives
13. Elevation Drives
14. Pintle Bearing
15. Azimuth Track

Figure 2. Line drawing of the GBT

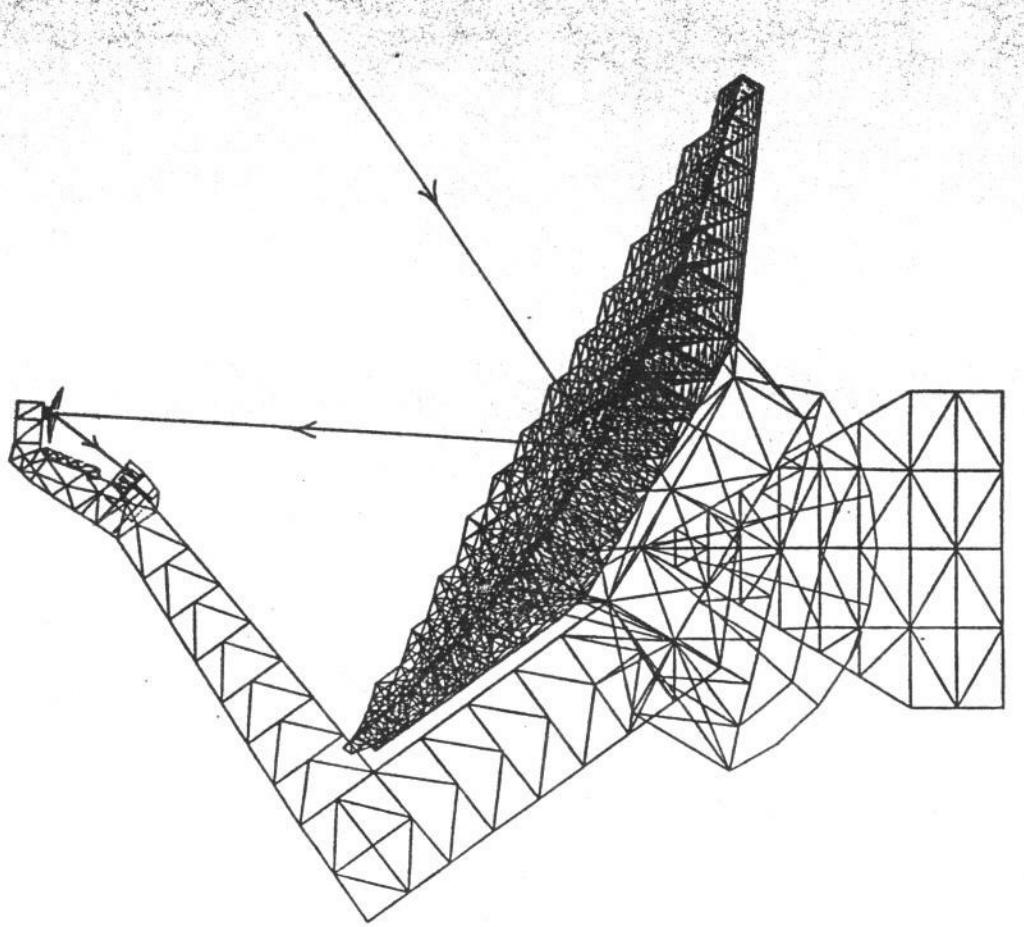


Figure 4. Direction of incoming radio waves

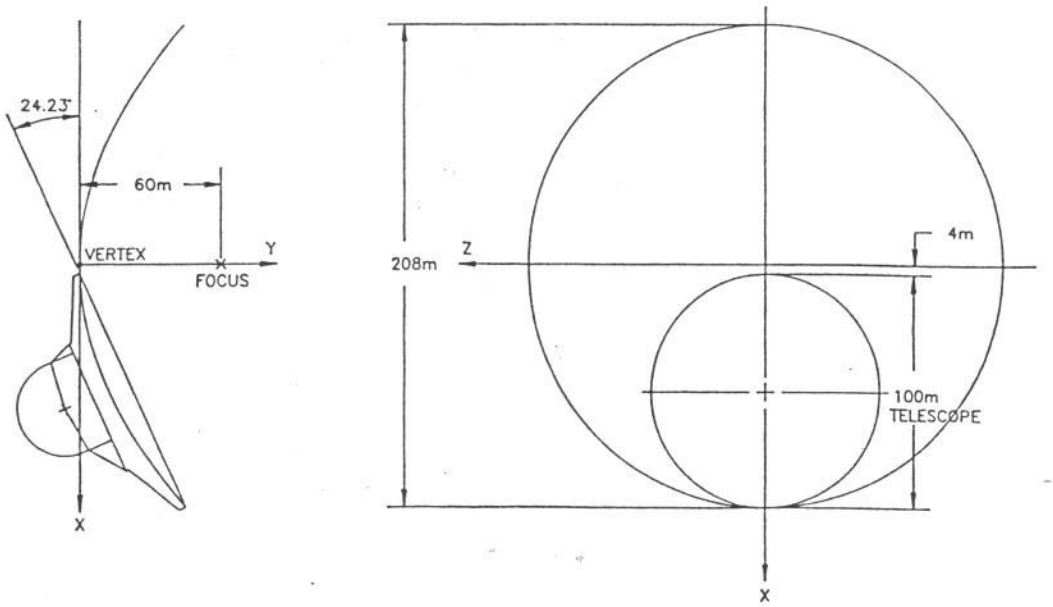


Figure 3. Parent Paraboloid

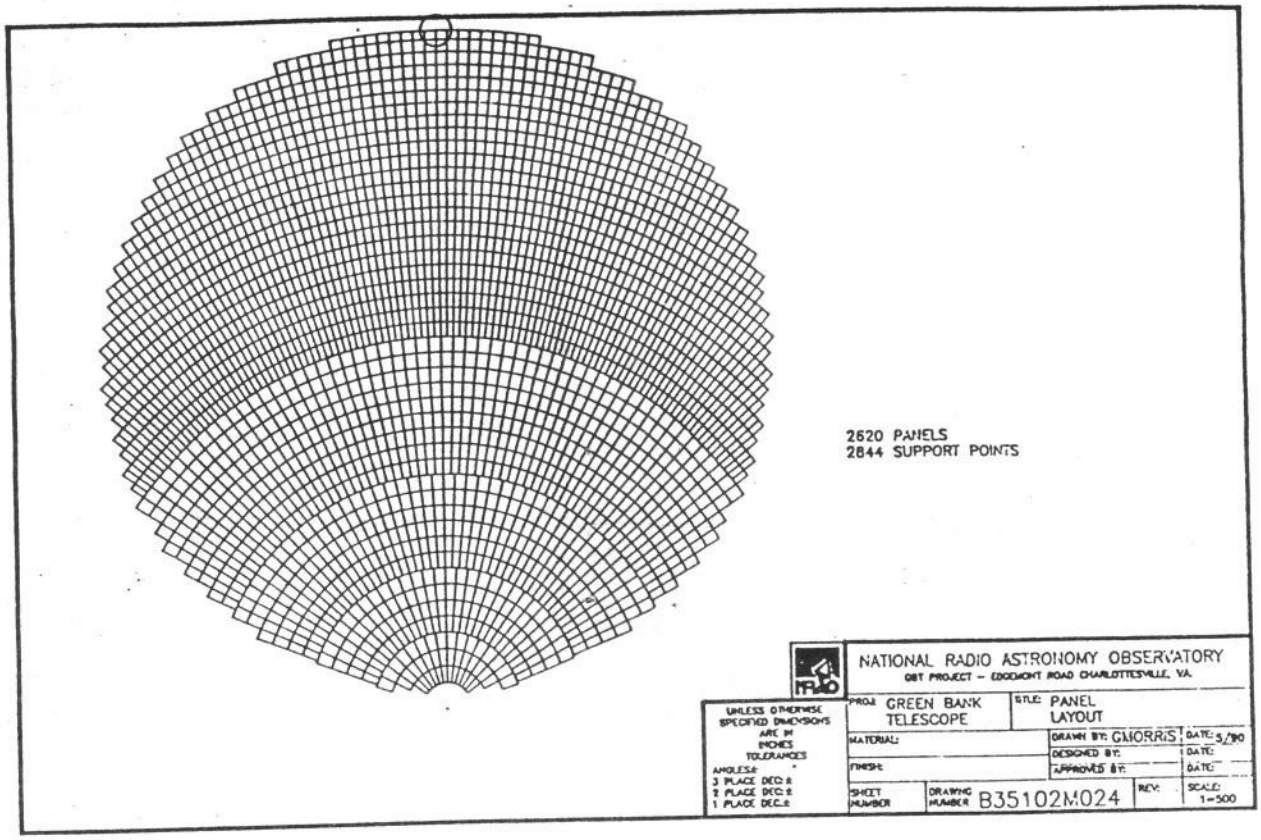


Figure 5. Surface Panel Configuration

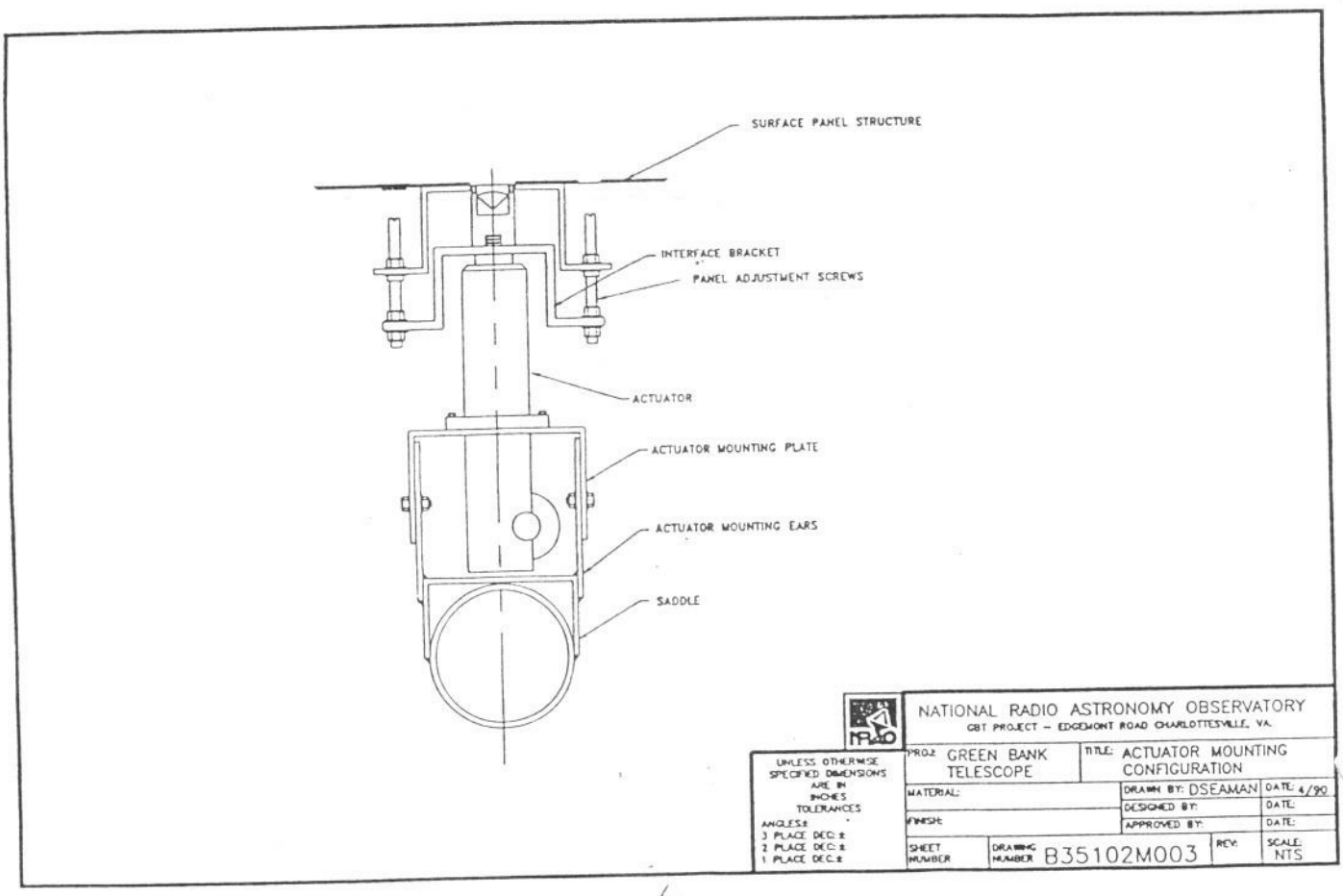
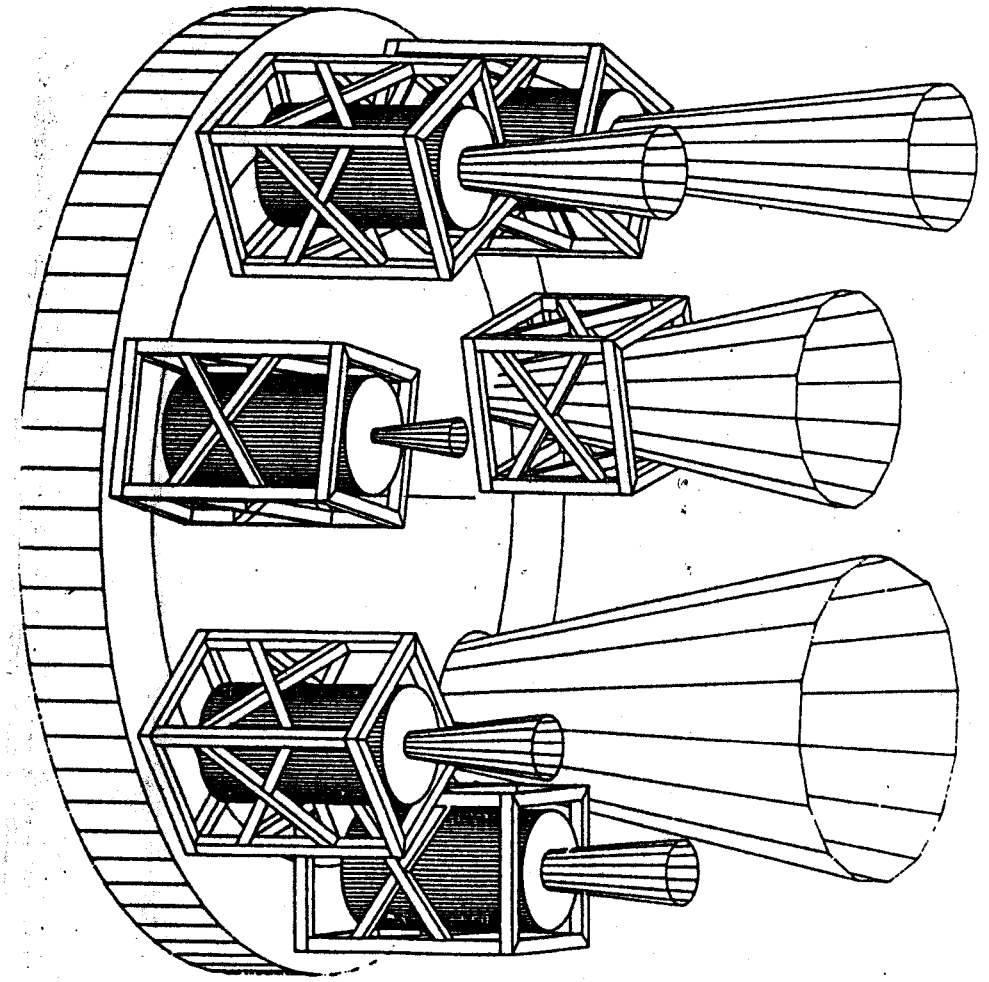


Figure 6. Actuator with retroreflector



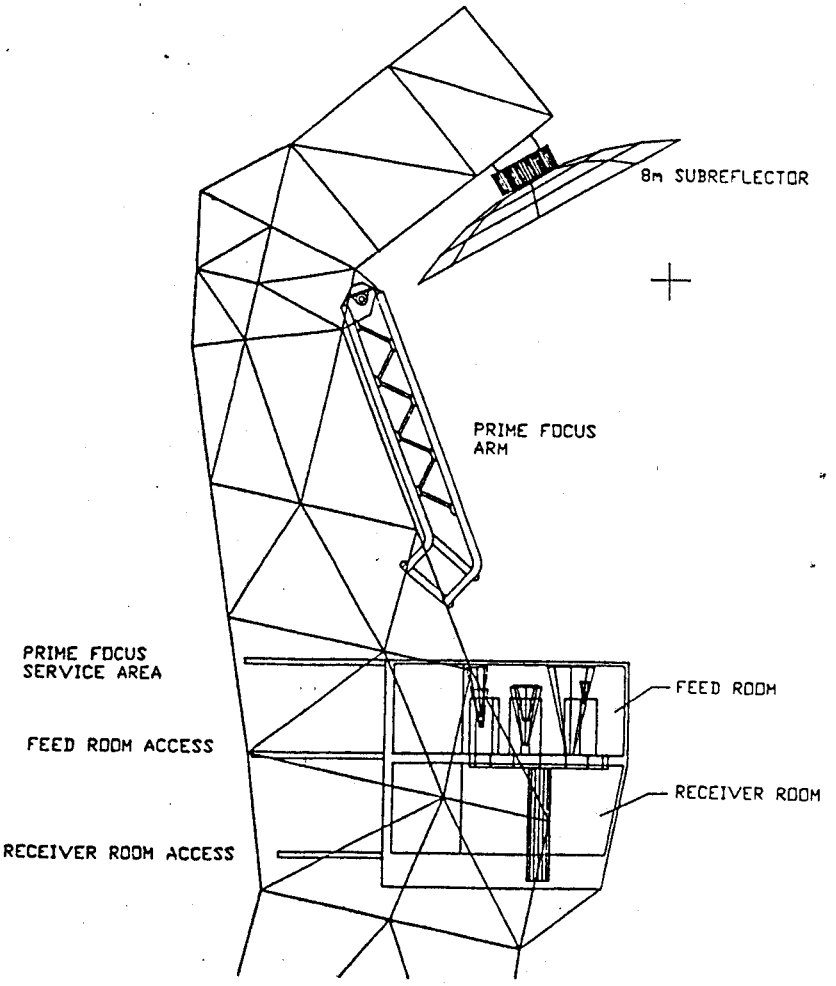
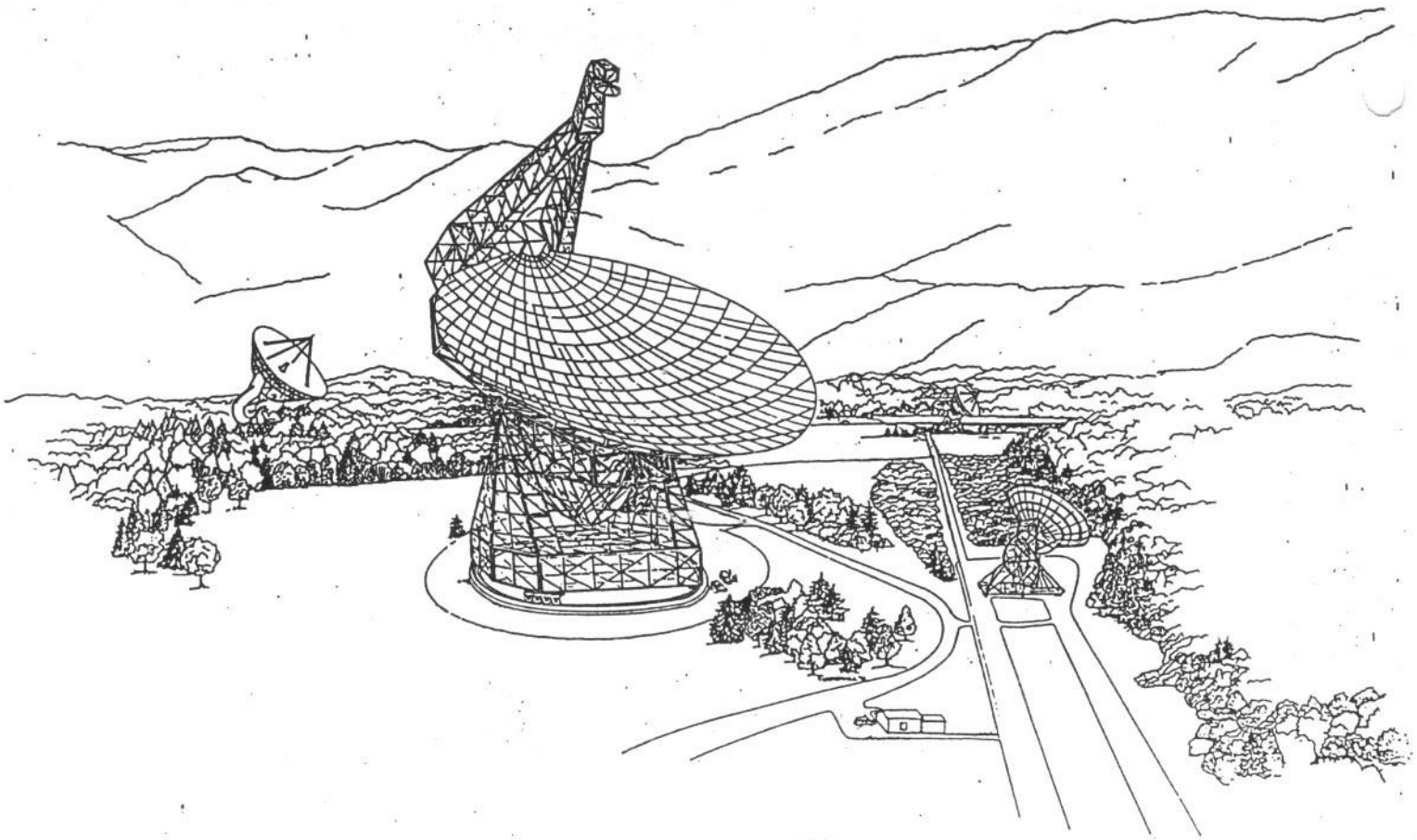


Figure 9. Subreflector and receiver room



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CLARKSBURG, WV 26301
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