Become a Member of DSES

Name:_____

Addr:_____

City:_____

State:_____ Zip:_____

Phone:_____

Email:_____

Skills, Interests & Affiliates:_____

_____

_____

_____

Annual Membership Fee, (check one):

___ Full Member $50 (Voting)

___ Associate $20 (Non-voting)

Date Paid:_____

Mail completed application to:

Deep Space Exploration Society
C/O Rex Craig, President
5921 Niwot Road
Longmont, CO 80503

Deep Space Exploration Society

Specifications

Operational Mode

Receive Only

- Located in Federally mandated radio quiet zone
- Dark sky location

Location

Table Mountain, Boulder County, U.S.A.
GPS Location:
Upper Dish at Bldg T-22
N40° 08' 53" W105° 13' 56"
N40° 08.900' W105° 13.922'
N40.14833° W105.23203°
Elevation: 1666 m, 5465 ft

Antennas

Parameter	Upper Dish	Lower Dish‡
Frequencies:	400 MHz - 2 GHz	400 MHz - 2 GHz
Diameter:	60 feet	60 feet
Antenna Gain:	32.5 dbi at 1 GHz	32.5 dbi at 1 GHz
Beam Width:	2.6°/400 Mhz, .7°/2 GHz	2.6°/400 Mhz, .7°/2 GHz
Noise Temperature:	1-2db at 400MHz total system	_____
Noise Figure:	0.8db at 400MHz w/ 20db LNA	_____
Coverage:	Full Hemisphere†	340° to 190°(?)
Slew Rate Max Az/El:	40/40 deg/min	40/40 deg/min
Slew Rate Min Az/El:		
Azimuth Repeatability:		
Elevation Repeatability:		

† Except at low elevation to South and West
‡ Not Currently Operational

Deep Space Exploration Society
C/O Rex Craig
5921 Niwot Road
Longmont, CO 80503
(303) 530-7251
(303) 442-1118 (antenna site)

Deep Space Exploration Society

Deep Space Exploration Society

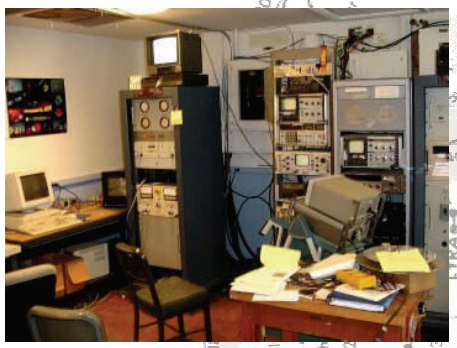
The Deep Space Exploration Society is a Colorado nonprofit organization that exists to foster the exploration and understanding of space by preparing students, members and the public to participate in that exploration. We facilitate experiments designed to expand our knowledge of space and execute ground based missions designed to support those experiments. The unique contribution we hope to provide to future exploratory missions is a low cost alternative satellite downlink ground station and tool for pursuing radio astronomy.

Our facility consists of two 60 ft parabolic dish antennas capable of receiving radio signals over a wide range of frequencies (100 MHz to 10 GHz) from celestial objects or space craft. This facility, located west of Longmont, CO was used for many years in research until its retirement. Our challenge over the last several years has been to restore and update the facility to provide a compelling alternative to the very expensive Deep Space Network antennas (located in the western US) using volunteer effort and the very limited resources available to us.

WWW.DSES.ORG

DSES History

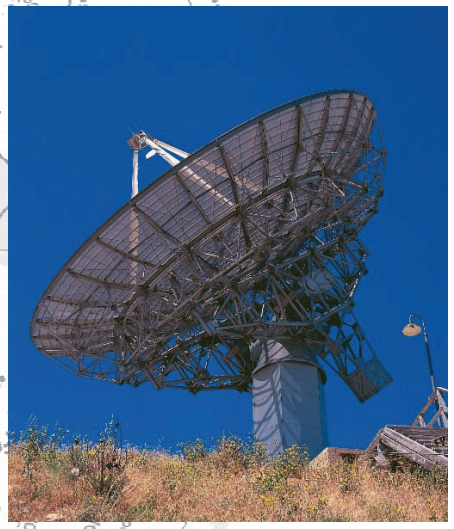
The Deep-Space Exploration Society (DSES) was incorporated in 1991 and was the outgrowth of an effort to return the Table Mountain antenna facility to active use after many years of dormancy. The project was undertaken by a



group of amateur radio operators, scientists, engineers and educators. Early efforts of the group were almost 100% focused on maintenance and upgrading of the buildings and large dish antennas. New drive systems were acquired and installed, repairs and modifications to the building were completed, and more modern test and operating equipment was procured. As the systems were upgraded and made operational other projects became possible. An early spinoff of our efforts became the Edge of Space Sciences (EOSS) nonprofit group, which launches high altitude research balloons. DSES tracks and recovers data DSES also seeks to involve students in the use and continuing development of the site. Students from a University of Colorado engineering class developed a tracking and control program for our facility known as Paratrack.

Recently we have begun utilizing the upper dish in a drift scan mode to acquire data from cosmic radio sources. This is being done to test and calibrate some newly acquired radio astronomy equipment. This is expected to be an ongoing project in amateur radio astronomy research and education. We hope to also involve high school and college students in this effort. Currently about 50% of our group's volunteer time goes into continuing maintenance and upgrading of facilities and equipment. Much has been accomplished in the last year.

Future plans include a system for making real time data from the antenna available on the internet and later the capability to allow remote command and control of the antenna from the internet. This will provide a convenient way for DSES members to monitor their projects remotely and thereby expand the utilization of the facility. In time it may also become possible for outside researchers and groups to remote operate the facility as a research tool for their own projects.



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