

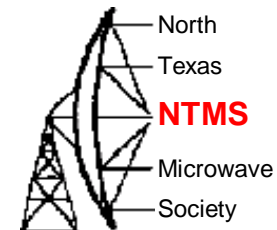
# 1296 MHz Scatter QSO between Texas and Colorado

Al Ward

W5LUA

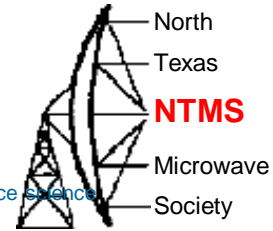
Feb 3, 2024

# Scatter QSO



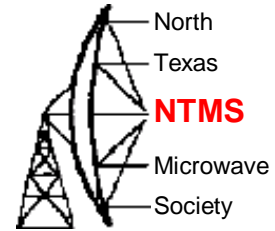
- QSO took place on January 25, 2024 at 1900Z on 1296.030 MHz between K0PRT DM88kj and W5LUA EM13qc
- DX 830 km (517 miles)
- W5LUA was running 250 watts (TH-338) to a pair of 45 ele loop yagis at 85 ft.
- K0PRT was using their 60 ft dish at the DSN site and 350 watts
- Mode was WSJT Q65-60B

# K0PRT on qrz.com

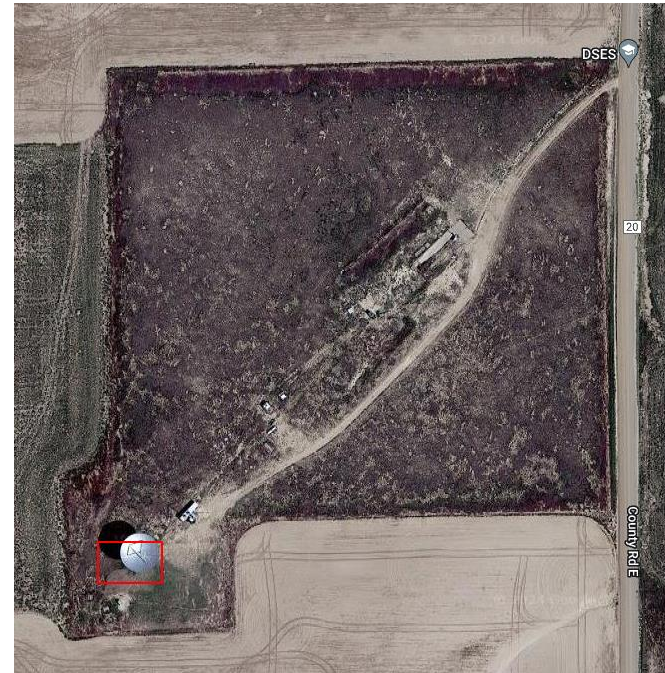


- **K0PRT** is the club station of the Deep Space Exploration Society. We are a Colorado based nonprofit organization dedicated to practical astronomy and space science education for students, the general public, and society members. Many in the group are hands-on radio amateurs.
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- Our major project is restoring and operating a 60-foot dish antenna for radio astronomy and amateur radio experimenting. Since 2009 our volunteer members have been working hard to restore and modernize the antenna and its support facilities. In August 2016 we succeeded in making scientific measurements of galactic neutral hydrogen at 1.4 GHz.
- 
- We also are doing experiments with smaller antennas, including:
  - Meteor Scatter
  - "Radio Jove" observations of HF radio pulses from Jupiter and its moon Io
  - Solar Wind Observations using the Sudden Ionospheric Disturbance Monitor (SID)
- 
- In addition to radio astronomy, we are using the 60 foot antenna for amateur radio communications including EME Moon Bounce.
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- We are fortunate to be a group that works so well together. We are diverse with a variety of technical and practical skills, knowledge, wisdom, and interests. We are learning radio astronomy and how to bring our facility back to life from the ground up. We enjoy what we do.
- 
- Some members of our group teach astronomy at local colleges. We are starting to host public programs to help share astronomy and radio with our local communities.
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- And we like to operate on the amateur radio bands.
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- Our 60-foot dish antenna site is located in Haswell, Colorado, about 90 miles southeast of Colorado Springs. The site is named the Paul Plishner Radio Astronomy and Space Sciences Center in honor of our donor who was an early researcher in Radar. The dish antenna is one of several that were built by the National Bureau of Standards (now NIST) for tropospheric propagation work in support of the Distant Early Warning (DEW) radar, from 1957 to 1974. Those antenna sites were located from Colorado to Arkansas.
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- If you contact us on the air and would like to receive a QSL card, please send a Stamped Self-Addressed (SASE) envelope, one that can hold a 4 inch x 6 inch card, to the address below. Please include your QSL card if you have one, or the QSO information for verifying the contact.
- 
- THE DEEP SPACE EXPLORATION SOCIETY, K0PRT
- 
- 4164 AUSTIN BLUFFS PKWY #562
- 
- COLORADO SPRINGS, CO 81918-2928
- 
- We also upload our logs to ARRL Logbook of the World and eQSL.
- **WWW.NTMS.ORG**  
You can learn more about our ongoing work at our website [dses.science](http://dses.science). Also we post here when we plan to operate on the ham bands.

# K0PRT

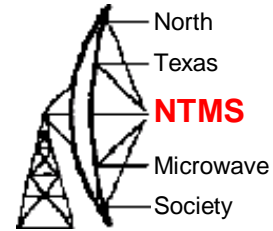


From [www.qrz.com](http://www.qrz.com)



From [www.k7fry.com](http://www.k7fry.com) grid

# K0PRT to W5LUA path



File Edit View History Bookmarks Tools Help

Find QTH locator or map square

https://k7fy.com/grid/

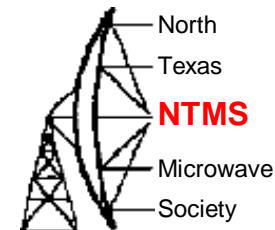
Terrain Satellite

Latitude: 38.380719 Longitude: -103.196597  
Elevation: 1310 m / 4296 ft  
Locator: **DM88K11FJ** (map, sat, terrain, hybrid)  
Distance from EM13QC68H: 831.731 km (516.81 mi)  
Bearing: 216.61° (reverse bearing: 136.61°)  
Midpoint - lat: 35.794009 lon: -99.776731

To find your QTH locator, click on your location on the map.  
To find corresponding grid square, enter QTH locator here:  
DM88K11FJ Show  
EM13QC68H  
Fill second box to approximate distance and bearing between grid squares.  
Please consider donating to help keep this page active.  
Donate

64°F Sunny 2:07 PM 1/29/2024

# KOPRT-W5LUA 1296 MHz QSO



WSJT-X - 6600M v2.6.1 by K1JT et al.

File Configurations View Mode Decode Save Tools Help

Single-Period Decodes					Average Decodes				
UTC	dB	DT	Freq	Message	UTC	dB	DT	Freq	Message
185200	-26	0.2	1002	: W5LUA KOPRT -26 q3	185030	1x	1000	: KOPRT W5LUA EM13	
185300	-8	0.1	1012	: W5LUA KOPRT -26 q3	185130	Tx	1000	: KOPRT W5LUA EM13	
185500	-29	0.2	999	: W5LUA KOPRT RRR q3	185230	Tx	1000	: KOPRT W5LUA EM13	
185600	-23	0.2	1002	: W5LUA KOPRT RRR q3	185200	-26	0.2	1002	: W5LUA KOPRT -26 q3
190000	-23	0.1	1002	: CQ KOPRT DM88 q3	185300	-8	0.1	1012	: W5LUA KOPRT -26 q3
185300	-8	0.1	1012	: W5LUA KOPRT -26 q3	185330	Tx	1000	: KOPRT W5LUA R-08	
185500	-29	0.2	999	: W5LUA KOPRT RRR q3	185330	1x	1000	: KOPRT W5LUA R-08	
					185430	Tx	1000	: KOPRT W5LUA R-08	
					185500	-29	0.2	999	: W5LUA KOPRT RRR q3
					185530	Tx	1000	: KOPRT W5LUA 73	
					185531	Tx	1000	: KOPRT W5LUA 73	
					185537	Tx	1000	: KOPRT W5LUA 73	
					185600	-23	0.2	1002	: W5LUA KOPRT RRR q3
					185630	Tx	1000	: KOPRT W5LUA 73	
					185730	Tx	1000	: KOPRT W5LUA 73	
					185830	Tx	1000	: KOPRT W5LUA 73	
					185930	Tx	1000	: KOPRT W5LUA 73	
					190000	-23	0.1	1002	: CQ KOPRT DM88 q3
					190030	Tx	1000	: KOPRT W5LUA 73	
					185300	-8	0.1	1012	: W5LUA KOPRT -26 q3
					185500	-29	0.2	999	: W5LUA KOPRT RRR q3

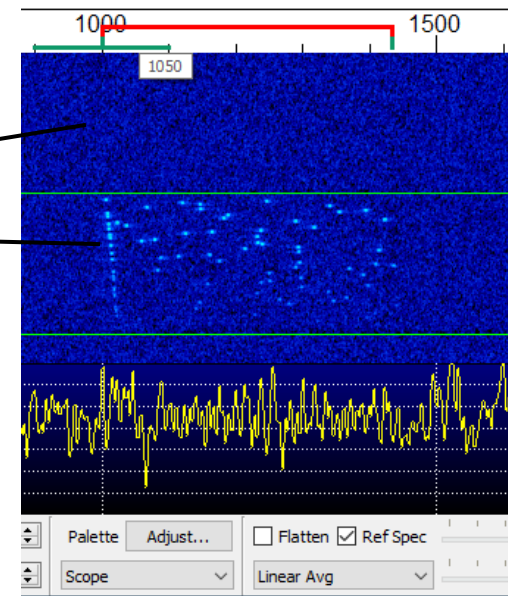
Reran .wav files

Log QSO Stop Monitor Erase Clear Avg Decode Enable Tx Halt Tx Tune Menus

1,296.354 785 Tx even/ist Tx 1000 Hz Tx 1000 Hz Submode B Max Drift 50

Generate Std Msgs Next Now Pwr

- KOPRT W5LUA EM13 Tx 1
- KOPRT W5LUA -29 Tx 2
- KOPRT W5LUA R-29 Tx 3
- KOPRT W5LUA RR73 Tx 4
- KOPRT W5LUA 73 Tx 5
- CQ W5LUA EM13 Tx 6



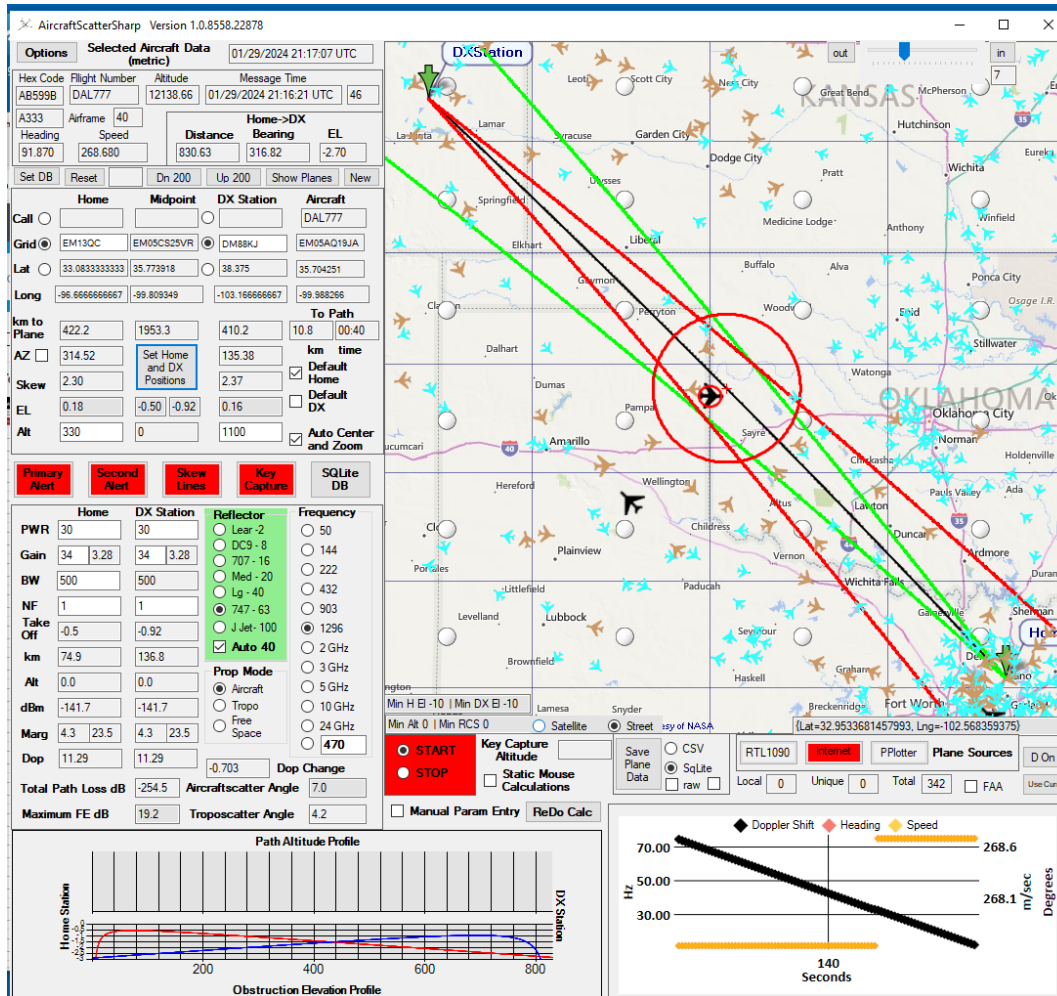
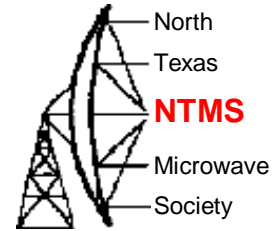
Note that a -29 dB signal is hardly visible in the waterfall.

Note 13 Hz doppler shifted signal is a big -8dB!

Next time use Q65-15B!

Combination of tropospheric scatter and aircraft scatter

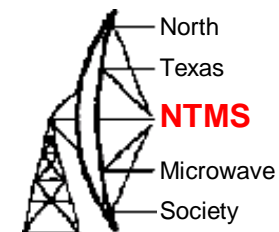
# AircraftScatterSharp by W3SZ



I did not have the Aircraft scatter program running at the time. I will next time!  
Here is a typical screen capture after the QSO showing a 747 mid path.

<https://w3sz.com/AircraftScatter.htm>

# Summary



- The big dish at K0PRT certainly opens up new possibilities for extended range on terrestrial paths on various microwave bands.
- I need to become more familiar with the great work that Roger Rehr W3SZ has done on “AircraftScatterSharp”
- Fun continues....73 de W5LUA