

The 144 MHz EME NewsLetter

©DF2ZC

...since 2003

www.df2zc.de



Issue 4/2022 7 April 2022

KA6U 41 US State 5 Month Roving Trip

Peter KA6U is currently in the final stages of his preparations for yet another roving trip through the United States. This time he set himself the goal to activate 41 states and complete more than 3000 QSOs. Different from his 2021 tour his focus 2022 will be on 23cm and 222 MHz. However, he will also bring 6m and 2m as well as 70cm gear.



KA6U's 23 cm antenna. Note the 2 m yagis on top his car waiting to be brought into good use again.

Peter has used the past months to build, improve systems and processes and can now run EME on two bands simultaneously. Most importantly the time needed to set up the station is much shorter now. He writes that the current 2m EME station for instance can now be set up and running within 20 minutes of arriving at a site. Because of this he can consider moving if the noise at the location is too high.

During and after his 2021 roving trip Peter already identified a number of good locations qualifying for future activations. His main selection criteria could maybe help others with similar plans:

- Clear (as possible) view in the moonrise direction enabling access to the moon with 5 degrees or less elevation
- Clear moon visibility for at least 5 hours after Moonrise (often 2m EME Grid activation sessions take 5 hours to complete)
- 24 hour access to the activation site
- Activation site suitable for running two Honda 2200 generators (each generator produces noise equivalent to Peter's F250 diesel truck at idle)
- If in a public parking area, set up in a location where other cars won't be parked closely
- No LED or sodium vapor street lights in area if night time activation
- No solar farms in area
- No cell towers in operating directions (within 20 degrees)
- Communities in direction of activation do not show solar panels on roofs within 3 km
- RF Quiet location (see below)

A cross check with Google Earth Pro shows if an area has the following:

- Power lines (High voltage transmission, substations, low voltage)
- Presence of solar farms
- Solar panels on community roofs show up
- Terrain elevation is available including ability to estimate height of trees
- Approximate time to Moon above local horizon and terrain
- Proximity of residential development that might impact generator use
- Ideal site is a wilderness area with no development
- Some of best locations have been boat launching ramps. These locations are normally accessible 24 hours and there are no issues with using generators. Ramps on lakes or oceans facing in the direction of Moonrise are ideal. KA6U has many activations from sites like these and they always are his first choice

Using these criteria above to select sites KA6U has activated approximately 70 locations on 2m EME from the coast of the Atlantic Ocean to 2200 m mountain elevations in the Pacific Northwest and California in the past three years. On only one occasion the RF noise level was so high on 2m that he had to decide to repeat the activation. Interestingly enough the grid in question was EL89 just north of where Peter lives South of Tampa, Florida. He returned to that grid a few weeks later.

Peter's methods of checking for RFI issues might also be helpful:

- MFJ-856 Directional Noise Finder W/3 Ele Beam - this handheld tool from MFJ is excellent for detecting power line noise and noise from LED lights. When Peter arrives at a location where he's concerned about power line noise possibilities he uses the noise finder.
- ICOM-705 with preamp and 3-ele 2m handheld yagi – he has an ICOM-705 transceiver in a backpack with a 2m preamp and battery. Peter has a 3 element Arrow 2M antenna connected. This method is excellent for measuring 2m noise and interference. The ICOM-705 has a pan adapter built in so he can characterize the type of noise present. KA6U thought he'd use this method at most locations however the site selection strategy above has worked much better than he anticipated (*DF2ZC: Instead of a ICOM-705 the old IC 202 would also come in handy when needing a small rig to carry around with a handheld antenna. If you can get hold of one at all.*)

-
- On a few occasions when Peter arrived at an activation site he was concerned about possible noise and used the tools above. When noise was detected he made adjustments to the operating location before setting up the antenna array

When Peter started doing activations he would always try to arrive at least two hours before moonrise so if there was a problem he would have time to move. Because of the success of the site selection process above KA6U now arrives no more than one hour before moonrise.

At least half of the activations KA6U has performed for 2m have been in remote or wilderness locations. Whenever possible Peter will select National Forests as activation sites. There are many National Forests that don't have trees or have areas that have been clear-cut so there is good moon access. There are very few rules which make it easy to setup and operate. In all of his operations to date, he has not had issues with land owners, local officials, etc. that required stopping the activation. There have been a few negotiations however politeness, enthusiasm, and describing his activity as providing a Public Service has always been successful.



KA6U operating at a hay field in Central New York State (Photos KA6U)

KA6U's tentative schedule for the states visited is:

Western US: May 2022

NM, AZ, UT, CO, NV, MT, WY

Central US: Jun 15 – Jul 15, 2022

TX, LA, KS, MO, OK, AR, SD, IA, NE, ND, MN

Midwest US: July 25 – Aug 15

WI, IN, IL, MI, OH, PA, NY

Northeastern and Eastern US: Aug 20 – Sep 20

MA, VT, NH, ME, CT, RI, DE, NJ, VA, MD, WV

Southeastern US: Sep 22 – Oct 1

KY, TN, NC, SC, GA, MS, FL

However, since this schedule is tentative it is subject to change depending on the many possible external influences. Peter plans to provide a rolling detailed one week schedule on his dedicated blog <https://ka6u.blogspot.com>

Speaking 144 MHz, KA6U will not run on this band from every square he goes to but he'll try to activate all "rare" squares he'll be QRV from. As backtalk channel for 2 m he will use PJClient EME1. Since the readers of this newsletter concentrate on 144 MHz, Peter wants to emphasize his setup has sufficient redundancy: back-up preamps, cables, SSPAs etc.

KA6U is planning to start 23cm activations in the Western/Central US in late April or early May. He does not have the dates yet. When he has a schedule he will post it on MMMonVHF and on his blog. So stay tuned for updates.

Upcoming DXpeditions

For more information on current and upcoming DXpeditions please have a look at www.mmmonvhf.de from where most of the information here was gathered unless noted otherwise.

AG6EE Rover Activity From Secret Surprise Location

Due to bad wx Petr AG6EE had to cancel his planned activity on April 9th/10th and hopes weather permits being QRV at the backup weekend May 7th/8th. Depending on his available time and also wx at potential QRV sites he might pop up from other nice grids until then, with a portable EME setup with 1 kW at feed and two or four xpols. Have a look at his qrz.com presence as well as on the JT65 logger of course.

KA6U Starts his 41 US State 5 Month Roving Trip

- see text above-

SV8/DK5EW QRV from Santorini (KM26)

Erwin, DK5EW, plans to show up holiday style from KM26QI from May 23rd to 28th. Rig is IC-9700 GPS, 2 x 8-ele-10JXX xpol + SSPA with EME power. Santorini has a bad reputation QRM-wise so Erwin hopes EME on 2m will be possible though.

The 144 MHz EME NewsLetter

is produced monthly since 2003. Copyright is by Bernd J. Mischlewski, DF2ZC.

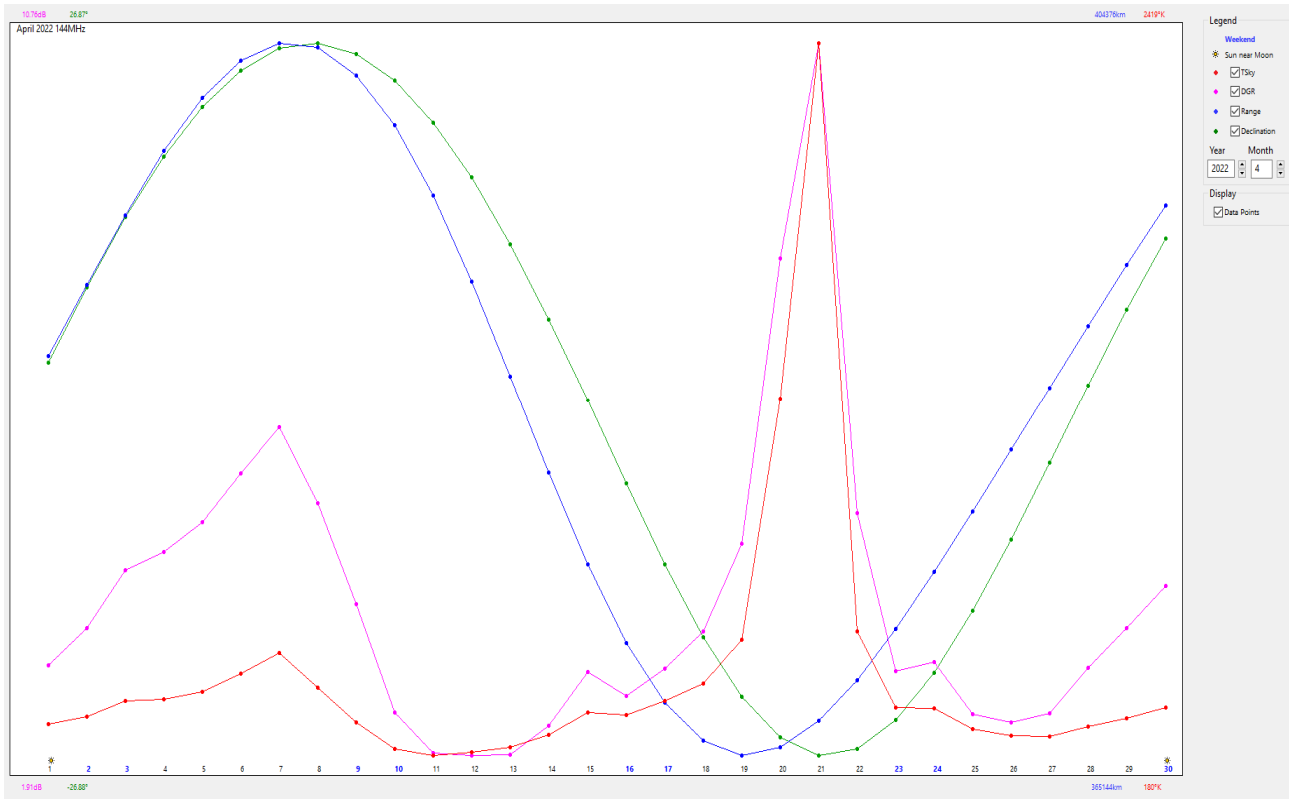
Permission to quote or reprint material from the newsletter is granted under the condition that it is only for non-commercial, personal use.

For a permission to make commercial use send a written request to BerndDF2ZC@gmail.com

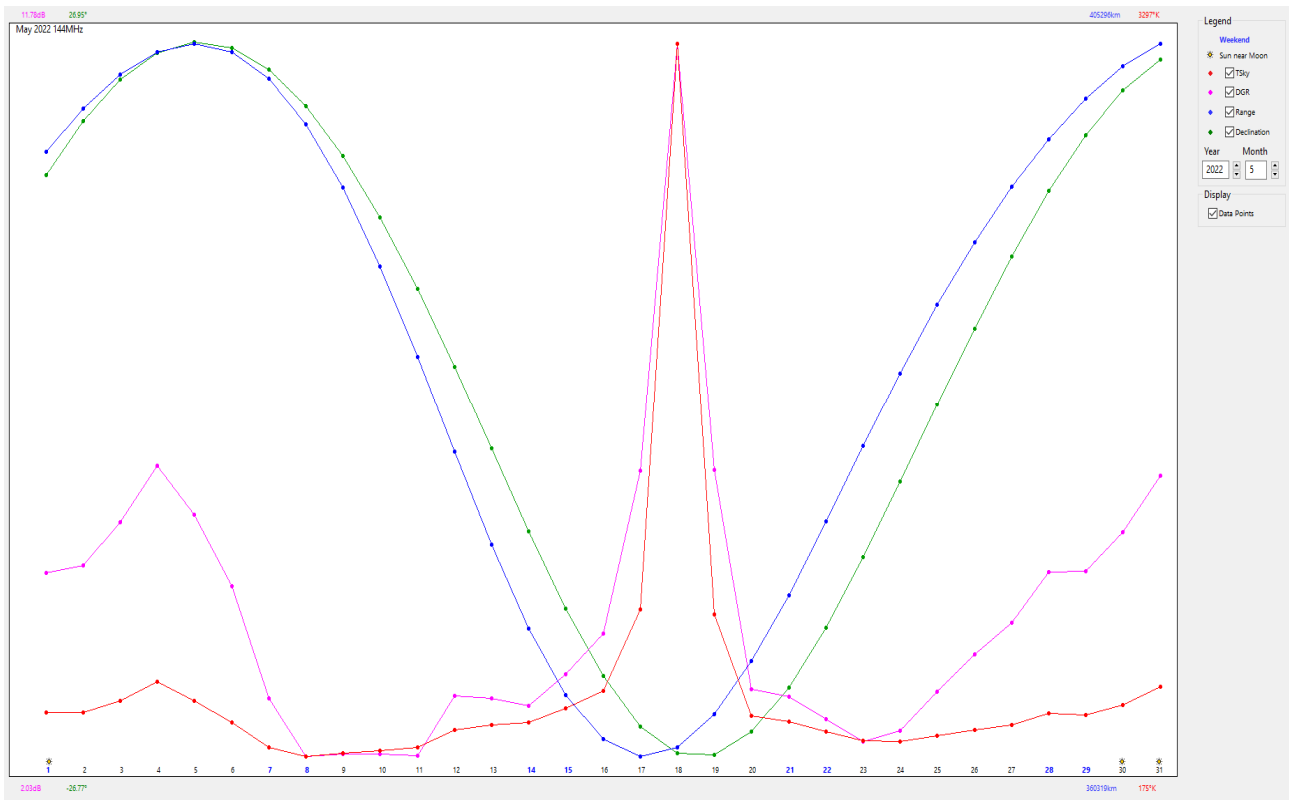
Time Table

2 May The May Issue of the 144 MHz EME Newsletter ready for download.

Moon Conditions



Moon Graph April 2022



Moon Graph May 2022

(Courtesy of David GM4JJJ (sk 2019) www.gm4jjj.co.uk/MoonSked/moonsked.htm)