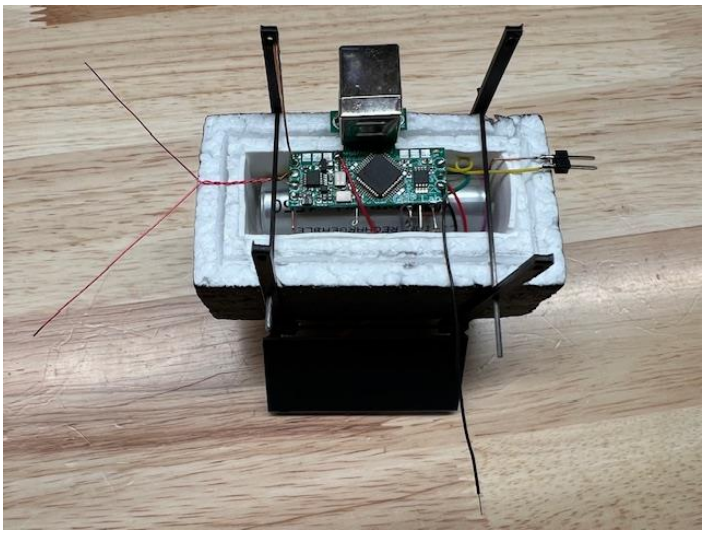
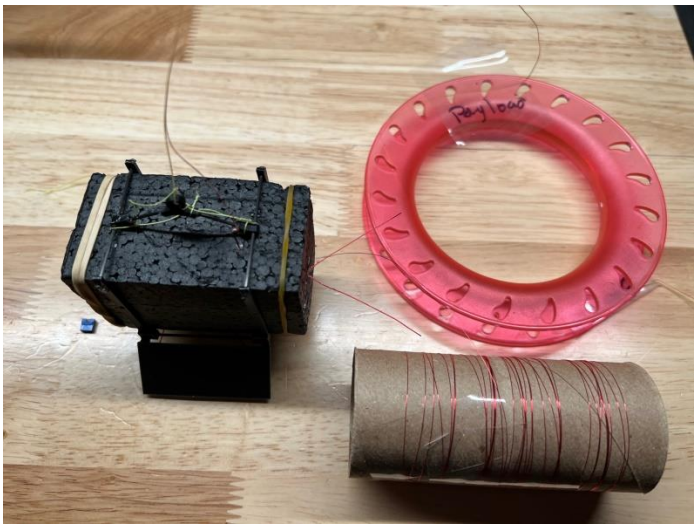
Balloon Report for the American Legion Radio Club Post 40 (ALP40-2)

- The launch took place on April 10, 2024 at 8:30 am on the Boulder City Dry Lake Bed
- There was a massive turnout for the launch, 10+ people and 7 cars/trucks

- Photos of the payload



- Payload ready to attach to balloon



- Photo of the balloon on the stretching table – Approximately 103” in circumference

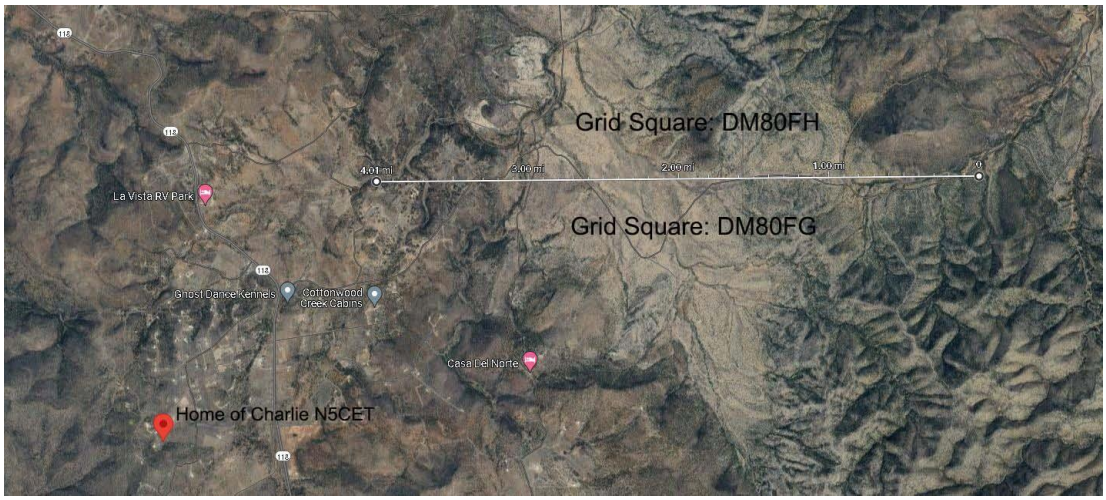
- The launch

- Sadly the balloon only made it as far as Alpine, Texas.
- After looking at the data, it would seem the balloon sprung a leak at altitude and slowly descended to the area shown below. After the payload touched the ground and the weight was off of the balloon, it stayed buoyant for several hours holding the top of the dipole antenna vertical and extended (winds at the time were light and variable). This allowed for signals to be sent and received by WSPR observers for that period of time, before the balloon finally touched the ground and the antenna lost effectiveness. Unfortunately the balloon went silent before Charlie, N5CET of Alpine, Texas could listen for its CW transmissions. He listened for a couple of hours, with no luck. Thank you for trying Charlie! Also, thanks to John, KA5JMC of Marfa, Texas for suggesting I talk with Charlie.
- The balloons final resting place could normally only be determined within several miles and would require a search of 12 square miles, a nearly impossible task.
- For this balloon however, the last transmissions indicated a shifting grid square, see below, which indicates it landed on the line between grid squares DM80FH and DM80FG. Therefore, only a search down a four mile long line would be required to see a 3' diameter balloon. Not an impossible task, but an extremely difficult one. The transmitter may still be transmitting, if it sees the sun; however you would have to be very close with the antenna compromised.
- Last two hours of balloon WSPR transmissions in the table below.

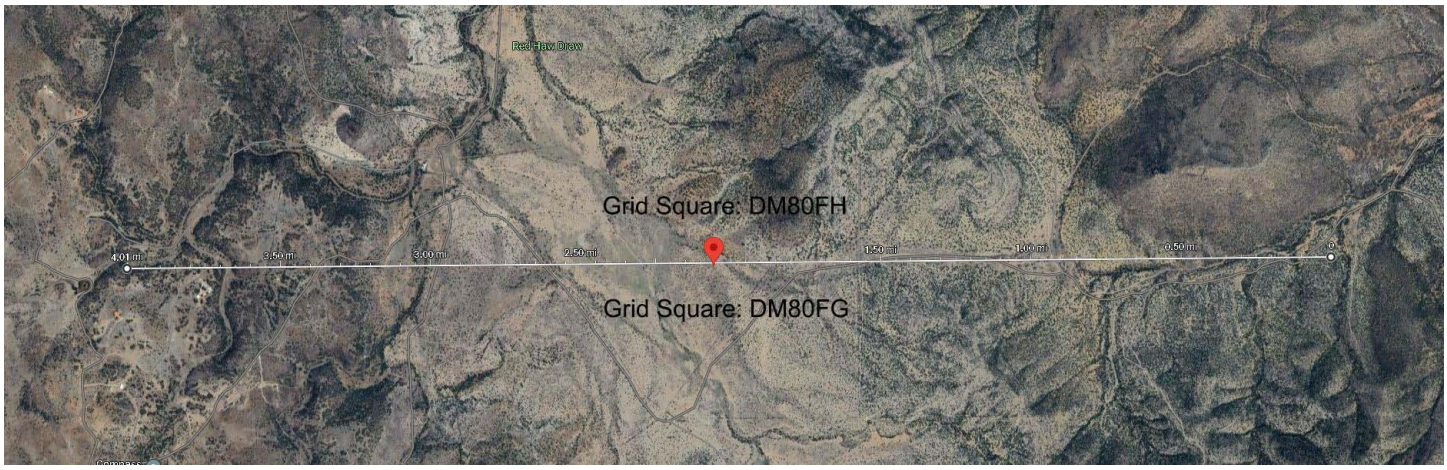
(download) or (copy to clipboard)

Map	DateTimeUtc	DateTimeLocal	RegCall	RegGrid	RegPower	EncCall	EncGrid	EncPower	Grid56	AltM	TempC	Voltage	Knots	GpsValid	AltMGraph	AltFt	KPH	MPH	TempF	Grid	DistKm	DistMi	GpsKPH	GpsMPH
map	2024-04-11 14:12	2024-04-11 07:12	KB7HTA	DM80	10																			
map	2024-04-11 13:52	2024-04-11 06:52	KB7HTA	DM80	10	Q78STR	LK41	0	FH	1,500	8	3.85	0	1	1,500	4,921	0	0	46	DM80FH	5	3		
map	2024-04-11 13:32	2024-04-11 06:32	KB7HTA	DM80	10	Q78RER	KO26	17	FG	1,540	4	3.85	0	1	1,540	5,052	0	0	39	DM80FG	5	3		
map	2024-04-11 13:12	2024-04-11 06:12	KB7HTA	DM80	10	Q78STS	JL04	10	FH	1,520	-2	3.85	0	1	1,520	4,987	0	0	28	DM80FH	5	3		
map	2024-04-11 12:52	2024-04-11 05:52	KB7HTA	DM80	10	Q78REQ	JA43	7	FG	1,520	-5	3.85	0	1	1,520	4,987	0	0	23	DM80FG	0	0		
map	2024-04-11 12:32	2024-04-11 05:32	KB7HTA	DM80	10	Q78REQ	JH50	30	FG	1,520	-3	3.85	0	1	1,520	4,987	0	0	27	DM80FG	5	3		
map	2024-04-11 12:12	2024-04-11 05:12	KB7HTA	DM80	10	Q78STQ	JA43	7	FH	1,480	-5	3.85	0	1	1,480	4,856	0	0	23	DM80FH	0	0		

- Below is a large scale map of the centerline of where the balloon could be found. Charlie's house is seen nearby.



- Small scale of where the balloon went down



- Even though the flight was short, several things were learned. One, high altitude is a rough environment for a Lithium battery and two; insulation eventually fails to keep things warm, without adding heat. The data is still being analyzed for more lessons.
- Thank you Steven, N6SFX for all the great photos!