Date: August 25, 2017

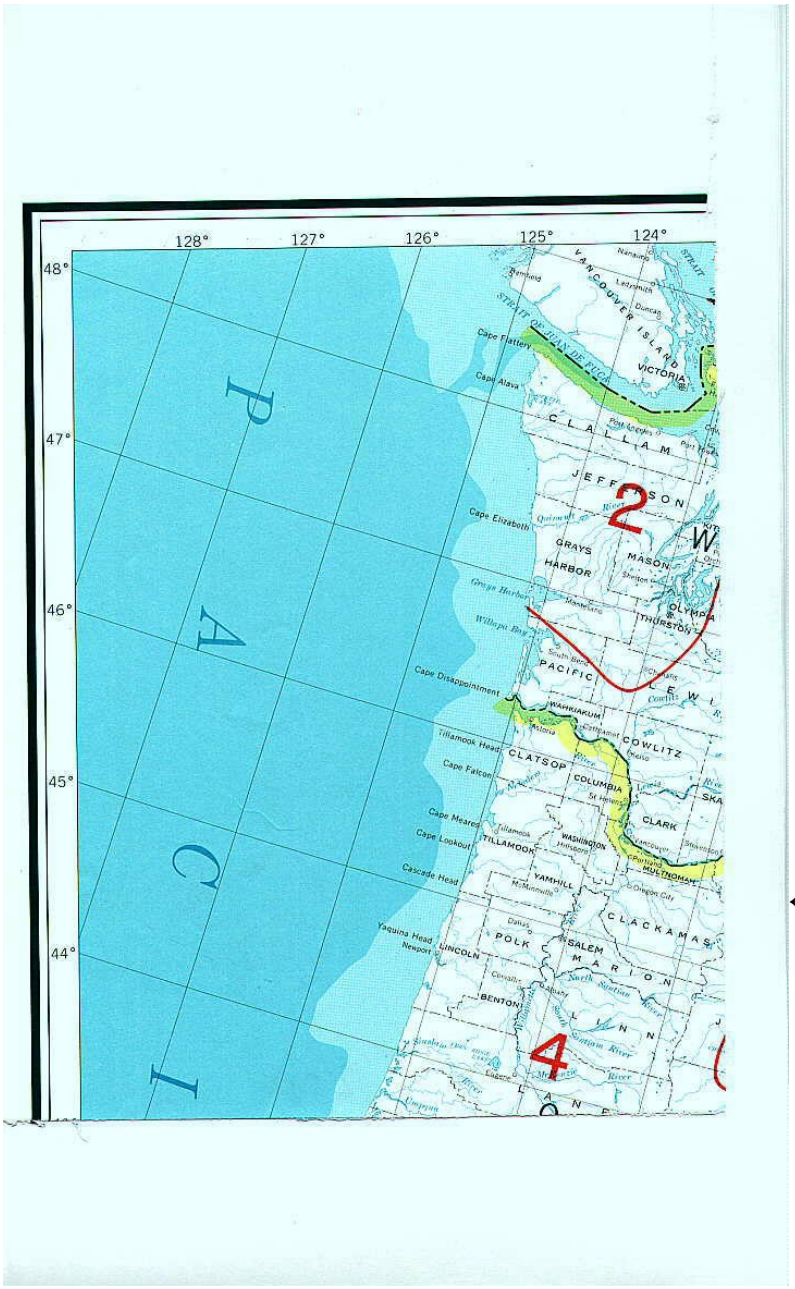
From: Gerald Wilson
Callsign: K7VIT

E-Mail: gtwilson@k7vit.com

Grid Locator: CN85QN

Primary TX Model: ICOM IC-756 Pro2 Transceiver
TX Power: 100 Watts

Ground Conductivity:



←-- QTH in
Portland, OR

Miscellaneous Comments:

During my Solar Eclipse QSO Party (SEQP) operation on August 21, 2017, I decided to reduce as many variables as I was able to control so that among the remaining primary variables would be the variation in propagation itself. These comments are intended to be an explanation of the procedures I used to operate.

Except as explained, the following operating parameters were held constant to the best of my ability:

1. Transmitter & Power Output: As noted above, I used the IC-756 Pro2 transceiver and maintained a constant power output of 100 watts.

2. Antenna Used & Related Conditions: I used my Force 12, C-4, antenna for both transmitting and receiving during the whole SEQP. The specializations for this antenna have been submitted in separate PDF document assembled by the antenna manufacturer. My station location/QTH is located approximately 18 miles North of the edge of the path of totality and approximately 52.5 miles North of the center of the path of totality. Whether correctly or not, I decided to aim my Yagi roughly parallel to the path of totality and maintain that heading. I aimed the antenna at an azimuth of 100° from true North and kept the antenna at that azimuth for the duration of the SEQP except for 2 exceptions as follows:

> **a.** Shortly after 20:44 UTC, I noticed that my signals had been spotted by the JF2IWL (Japan) skimmer. At that time (perhaps 2:46 UTC), I turned my antenna to an azimuth of approximately 300°. After a few CQ calls and receiving no answer from Japanese hams, I quickly returned to an azimuth of 100°. When I saw that I was spotted/reported again by the same JF2IWL skimmer, I did not change my antenna azimuth;
> **b.** At about 21:32 UTC, DS5USH (South Korea) answered by CQ call. I turned my Yagi again to an azimuth of approximately 300°. After completing this contact, I called CQ again but received no other response from the Asian continent or other far-east entities. I immediately returned the Yagi to an azimuth of 100°; and
> **c.** I would also note that I failed to notice that the OL7M (Czech Republic) skimmer spotted K7VIT. Not noticing the spot, I did not turn my antenna from its position. My Yagi remained pointed to an azimuth of 100° when the OL7M skimmer reported my signal.

3. Skimmer Reports: Elsewhere on your reporting webpage there is a link for reporting Reverse Beacon Network (RBN) reports with their associated signal reports. After the SEQP, I captured the skimmer reports for my RTTY signals with their signal levels. I was unsure if this information was requested or useful to you, but I submitted the information and will duplicate it here:

UTC	Freq.	Skimmer	Mode	Sig.
15:55	K7VIT spotted on	14080.6 by	K1TTT-# -	RTTY 11 DB CQ
15:55	K7VIT spotted on	14080.6 by	KO7SS-# -	RTTY 16 DB CQ
16:02	K7VIT spotted on	14080.5 by	VE7CC-# -	RTTY 16 DB CQ
16:02	K7VIT spotted on	14080.6 by	KO7SS-# -	RTTY 27 DB CQ

16:05 K7VIT spotted on 14080.6 by K1TTT-# - RTTY 09 DB CQ
16:13 K7VIT spotted on 14080.6 by KO7SS-# - RTTY 14 DB CQ
17:39 K7VIT spotted on 14080.5 by VE7CC-# - RTTY 09 DB CQ
17:39 K7VIT spotted on 14080.6 by N7TR-# - RTTY 27 DB CQ
17:39 K7VIT spotted on 14080.6 by WA7LNW-# - RTTY 08 DB CQ
17:41 K7VIT spotted on 14080.6 by KO7SS-# - RTTY 09 DB CQ
17:41 K7VIT spotted on 14080.6 by KS4XQ-# - RTTY 08 DB CQ
17:46 K7VIT spotted on 14080.6 by K1TTT-# - RTTY 08 DB CQ
17:51 K7VIT spotted on 14080.6 by KO7SS-# - RTTY 12 DB CQ
17:51 K7VIT spotted on 14080.6 by KS4XQ-# - RTTY 09 DB CQ
17:56 K7VIT spotted on 14080.6 by K1TTT-# - RTTY 13 DB CQ
18:01 K7VIT spotted on 14080.6 by KO7SS-# - RTTY 16 DB CQ
18:02 K7VIT spotted on 14080.6 by WA7LNW-# - RTTY 08 DB CQ
18:10 K7VIT spotted on 14080.5 by VE7CC-# - RTTY 13 DB CQ
18:25 K7VIT spotted on 14080.6 by WA7LNW-# - RTTY 08 DB CQ
18:25 K7VIT spotted on 14080.6 by KO7SS-# - RTTY 20 DB CQ
18:28 K7VIT spotted on 14080.6 by K1TTT-# - RTTY 07 DB CQ
18:56 K7VIT spotted on 14080.5 by VE7CC-# - RTTY 25 DB CQ
18:57 K7VIT spotted on 14080.6 by KO7SS-# - RTTY 18 DB CQ
19:06 K7VIT spotted on 14080.6 by WA7LNW-# - RTTY 09 DB CQ
19:08 K7VIT spotted on 14080.6 by KO7SS-# - RTTY 19 DB CQ
19:18 K7VIT spotted on 14080.6 by WA7LNW-# - RTTY 08 DB CQ
19:20 K7VIT spotted on 14080.6 by KO7SS-# - RTTY 27 DB CQ
20:27 K7VIT spotted on 14080.6 by N7TR-# - RTTY 11 DB CQ
20:27 K7VIT spotted on 14080.6 by KO7SS-# - RTTY 25 DB CQ
20:27 K7VIT spotted on 14080.6 by K1TTT-# - RTTY 12 DB CQ
20:28 K7VIT spotted on 14080.6 by KS4XQ-# - RTTY 08 DB CQ
20:33 K7VIT spotted on 14080.6 by WA7LNW-# - RTTY 09 DB CQ
20:33 K7VIT spotted on 14080.6 by JF2IWL-# - RTTY 10 DB CQ
20:36 K7VIT spotted on 14080.7 by OL7M-# - RTTY 14 DB CQ
20:37 K7VIT spotted on 14080.6 by KO7SS-# - RTTY 29 DB CQ
20:38 K7VIT spotted on 14080.6 by K1TTT-# - RTTY 20 DB CQ
20:39 K7VIT spotted on 14080.6 by N7TR-# - RTTY 17 DB CQ
20:43 K7VIT spotted on 14080.6 by KS4XQ-# - RTTY 08 DB CQ
20:44 K7VIT spotted on 14080.6 by JF2IWL-# - RTTY 09 DB CQ
21:01 K7VIT spotted on 14082.1 by KO7SS-# - RTTY 19 DB CQ
21:01 K7VIT spotted on 14082.2 by N7TR-# - RTTY 18 DB CQ
21:02 K7VIT spotted on 14082.2 by K1TTT-# - RTTY 10 DB CQ
21:03 K7VIT spotted on 14082.2 by KS4XQ-# - RTTY 08 DB CQ
21:10 K7VIT spotted on 14082.2 by N7TR-# - RTTY 32 DB CQ
21:11 K7VIT spotted on 14082.1 by KO7SS-# - RTTY 28 DB CQ
21:12 K7VIT spotted on 14082.2 by K1TTT-# - RTTY 12 DB CQ
21:14 K7VIT spotted on 14082.2 by KS4XQ-# - RTTY 10 DB CQ
21:20 K7VIT spotted on 14082.2 by N7TR-# - RTTY 35 DB CQ
21:32 K7VIT spotted on 14081.7 by N7TR-# - RTTY 38 DB CQ
21:32 K7VIT spotted on 14081.7 by KO7SS-# - RTTY 38 DB CQ
21:35 K7VIT spotted on 14081.7 by KS4XQ-# - RTTY 11 DB CQ
21:35 K7VIT spotted on 14081.7 by W4AX-# - RTTY 07 DB CQ
21:36 K7VIT spotted on 14081.7 by K1TTT-# - RTTY 09 DB CQ

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21:42 K7VIT spotted on 14081.7 by N7TR-# - RTTY  35 DB CQ
21:43 K7VIT spotted on 14081.7 by KO7SS-# - RTTY  32 DB CQ
21:45 K7VIT spotted on 14081.7 by KS4XQ-# - RTTY  09 DB CQ
21:45 K7VIT spotted on 14081.7 by W4AX-# - RTTY  08 DB CQ
21:46 K7VIT spotted on 14081.7 by K1TTT-# - RTTY  09 DB CQ
21:55 K7VIT spotted on 14082.5 by N7TR-# - RTTY  44 DB CQ
21:55 K7VIT spotted on 14082.5 by KO7SS-# - RTTY  38 DB CQ
21:56 K7VIT spotted on 14082.5 by K1TTT-# - RTTY  11 DB CQ
21:56 K7VIT spotted on 14082.5 by JF2IWL-# - RTTY  10 DB CQ
21:56 K7VIT spotted on 14082.5 by KS4XQ-# - RTTY  10 DB CQ
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4. Sending Signal Reports: I want to point out that I reported only RST signal reports of 599. At my station, I do not have the means enabled to give objective, calibrated signal reports such as an RBN node or a skimmer may be able to give. I decided to rely on the reports of those skimmer-nodes which I believe would prove to be more reliable as propagation varied than my guesses. I apologize if I miscalculated on that aspect of the SEQP.

5. Effective Radiated Power (ERP): I am submitting information which I believe is consistent with guidance referred to on the SEQP website and contained in the "Effective Radiated Power" guidance by Ward Silver N0AX and reprinted from the 2018 ARRL Handbook. My supplied information is as follows:

Transmitter Power Output (TPO) = 100 watts

System Gain = - Transmission Line Loss - Transmission Components Loss + Antenna Gain

K7VIT System Gain = - [Transmission Line Loss (90' of RG-8U coax)] – [Monitor Scope + Shack Coax Switch + Amplifier Bypass + Shack Pwr/SWR Meter + Remote Coax Switch] + Antenna Gain

K7VIT System Gain = - 1.2 dB – [?dB + 0.1 dB + ?dB + ?dB + 0.1 dB] + 4.6 dBd (Unknown insertion loss figures assumed to be 0 dB for this calculation.)

K7VIT System Gain = - 1.2 dB – [0.2 dB] + 4.6 dBd = 3.2 dB

$$ERP = TPO \times \log\text{-}1\left(\frac{\text{System Gain (dB)}}{10}\right)$$

$$ERP = 100 \text{ watts} \times \log^{-1}\left(\frac{3.2 \text{ (dB)}}{10}\right) = 209 \text{ watts}$$

Please refer to the Table at the end of this document for the Force-12/manufacturer's information about the C-4 Yagi gain relative to a reference dipole (dBd).

6. Thank you: I want to express my appreciation to all those who designed this experiment, and to those who will recover, tabulate and analyze the data. While I did not make a many contacts (79 QSO's + 1 Dupe), the opportunity to contribute to this scientific effort was a big

incentive and a rewarding experience for me. [The Dupe was a ham, AE1T, who called me again just four (4) minutes after we completed the earlier QSO.]

Please do not hesitate to contact me, if I can provide more information from my log or about my station configuration to assist you in this effort.

73,

Jerry K7VIT

Manufacturer's Specifications:

Force 12

C-4 (8 elements, C-3 + 40m EF-140S, 2 feedlines)

Boom Length	Wind Load	Freq. in MHz	Gain dBd	Net Gain dBd	F/B	SWR (max)	Turning Radius	Wt.	Mast Torque
18'	6.4	7.000-7.300	5.7	0	0	2:1(adj., 130 kHz)	19.8'	39#	<320 in/lb
		14.000-14.350	10.4	**4.6**	15	<1.6:1			
		18.068-18.168	7.6	2.5	7	~2.8:1			
		21.000-21.450	10.6	4.8	18	2:1 (adj., 425kHz)			
		24.890-24-990	7.4	2.1	4	~3.2:1			
		28.000-29.700	10.2	4.4	18	2:1 (adj., 1.5MHz)			