

S-Units vs dB and Power Output AD6AE

Video: 1. <https://youtu.be/0rRs75Kdwq8>
2. [100w vs. 5w: PART 2 \(SSB\)](#)

Being a QRP operator, I found his presentation in Video #1 very interesting.

Output (in watts)	Change (in db)	Change - Relative to 100 watts (in S-Units)	If S7 @ 100 watts...
1.5	-18	- 3	S4
3	-15	- 2.5	
6	-12	- 2	S5
12	-9	- 1.5	
25	-6	- 1	S6
50	-3	- 0.5	
100	0	No Change	S7
200	+3	+ 0.5	
400	+6	+ 1	S8
800	+9	+ 1.5	
1500	+12	+ 2	S9

Five Takeaways:

1. Increasing or reducing your power by a factor of four yields a difference of only one S-unit.
2. As long as your signal is above the receiving station's noise floor, you'll be heard.
3. Use no more power than necessary to establish reliable communications.
4. Your money is better spent on a good antenna system.
5. The Ionosphere must be cooperative at that time.

More on Relationships Between dBs and S-units

Xmtr Power & Far Field Rcvr S-units

- [Adding a linear amplifier! How Much Will It Increase My Signal?](#)
- [What Hams Need to Know About S-Meters](#)
- [Decibel & S-Readings](#)
- [Understanding decibels and decibel measurements](#)
- [S meter - Wikipedia](#)
- [article_S_meter.pdf](#)
- [A Tutorial on the Decibel - Version 2_1 - Formatted.pdf](#)