Technical Note D74 1015
October 2015

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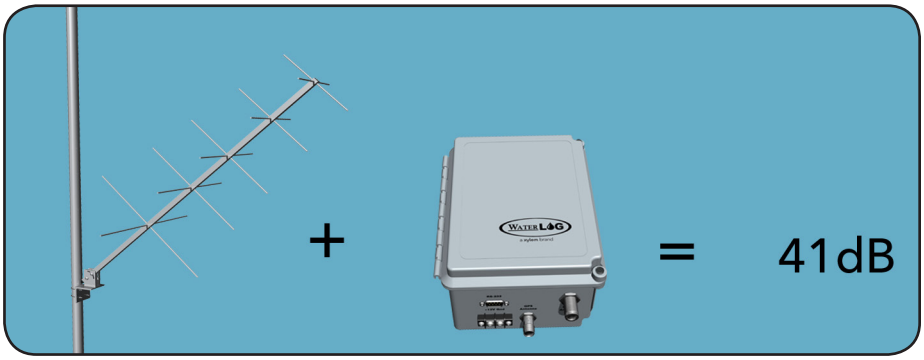
MAXIMIZING YOUR GOES RADIO OUTPUT POWER

To be compliant with GOES V2 regulations the total power that can be delivered to the GOES satellite is 41dB. To accurately understand the power you're delivering to the GOES satellite you must accurately understand what affects power in your GOES system. The GOES power system consists of a battery, the GOES radio, the antenna cable, and the antenna. For the purposes of selecting the correct GOES radio power level we will assume that the battery and all connections are in good working condition. Power gain comes from two sources, the radio and the antenna. Power loss comes from the cables and the connections. In order to deliver the maximum allowable power to the satellite you must know the gain of your antenna and the gain of your GOES radio.



The H-2221 V2 GOES radio was certified with our own 11dB Yagi antenna; as a result the default power is set at 30dB. Some users are using the H-2221 V2 GOES radios with different antennas that have less gain. In this case the RF output power may not be enough to produce reliable transmissions. The H-2221 V2 has the option for the user to select an 11dB Yagi antenna, an 8dB Top Hat antenna, or a 4dB gain Omni antenna. The H-2221 V2 transmitter will adjust its output power based on the antenna type selected in order to maintain the proper level of effective radiated power. The options are listed below:

Antenna Type	Antenna Gain	Radio Power (dB)	Total Power (dB)
Yagi	11dB	30 dB (1.41 Watts)	41dB
Top Hat	8 dB	33 dB (2.82 Watts)	41 dB
Omni	5 dB	36 dB (5.64 Watts)	41 dB

With an XL series logger, the option to select an antenna type is only available from the PC menu and is under the GOES H-2221 Diagnostic menu (option A). With a Storm data logger, this option is found in "Outputs" and then "Satellite communications Setup".

Note: The user must make sure this option is set correctly or the H-2221 V2 radio may transmit more power than is acceptable to the satellite. When looking at the raw received satellite transmissions, the power level must not exceed a level of 41 dB.

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