

Aqua-fModem: A Stand-alone Underwater Acoustic Modem Based on OFDM Technology

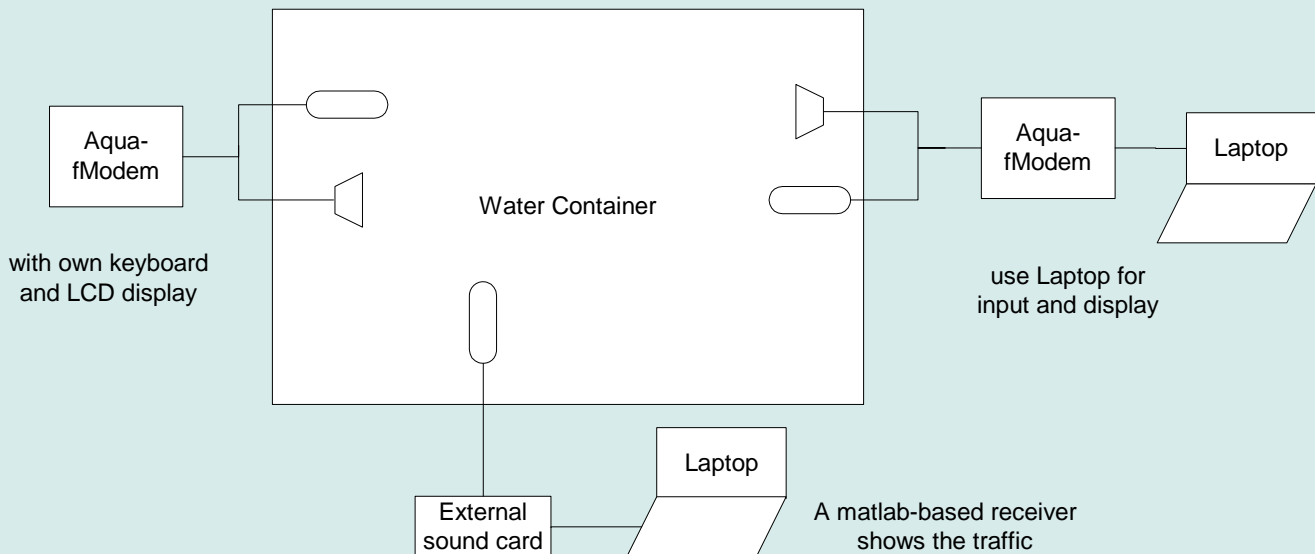
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OFDM is one appealing solution for high-rate underwater acoustic communications!

- We prototyped an OFDM modem based on a TMS320C6713 DSP board.
- Real time decoding is achieved
- Easy to interface with networking protocols (following the NEMA standard)



Demo setup



Parameters

- QPSK modulation
- Rate $\frac{1}{2}$ channel coding (CC & nonbinary LDPC)
- Bandwidth 5.5 kHz
- Spectral efficiency 0.56 bits/s/Hz
- Data rate 3.1 kb/s



A summary on our recent work on multicarrier underwater acoustic communication is available at:

http://www.engr.uconn.edu/~shengli/OFDM_progress_summary.pdf