



Problem Statement

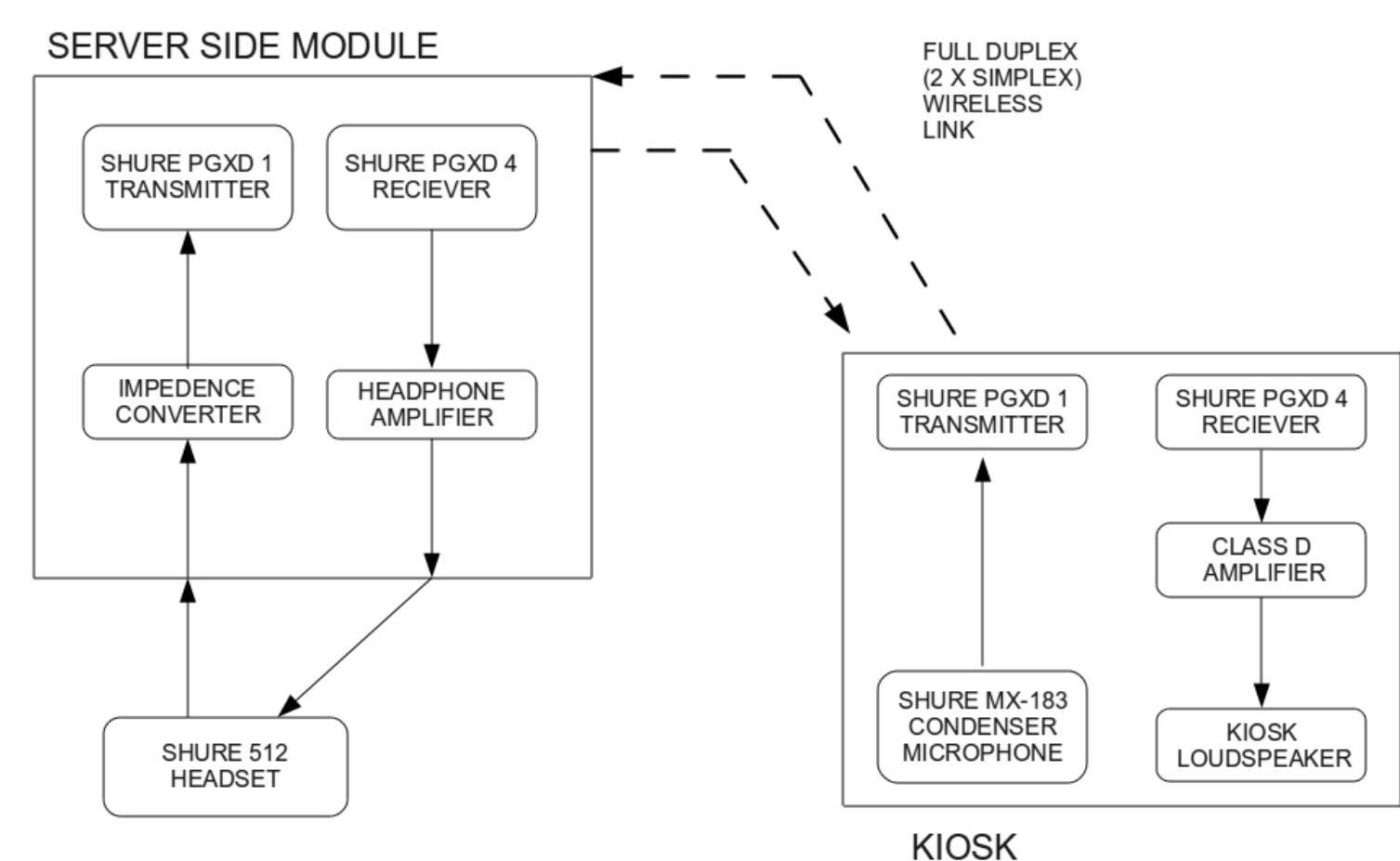
With traditional ordering intercoms, the wiring between the ordering kiosk is always a weak link. If there is a bad or noisy connection within this wiring, no matter the sound quality of other parts of the system, the system will produce poor results.

Methodology

We used the Shure PGXD Series of Wireless devices because they were already designed to be used in conjunction with the Shure WL-185 which had been tested by IPRO 344.



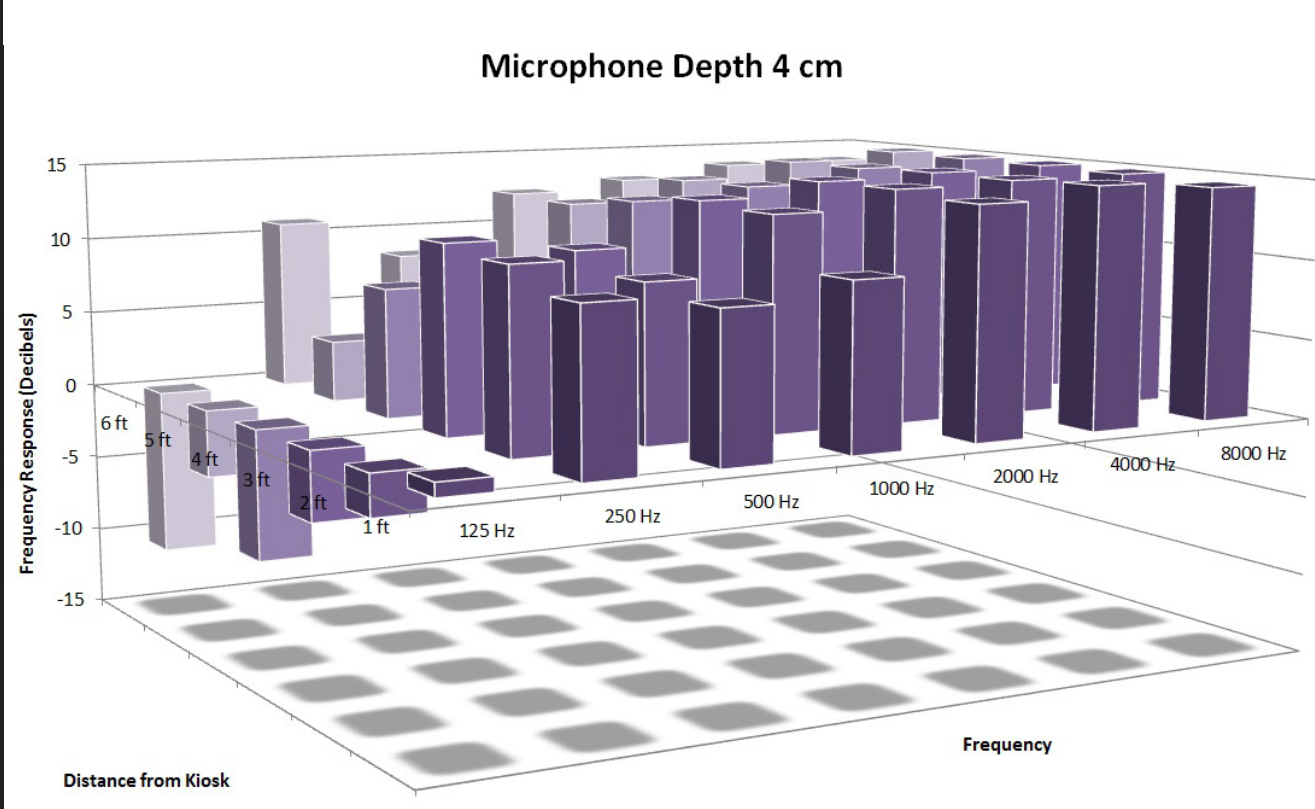
System Schematic



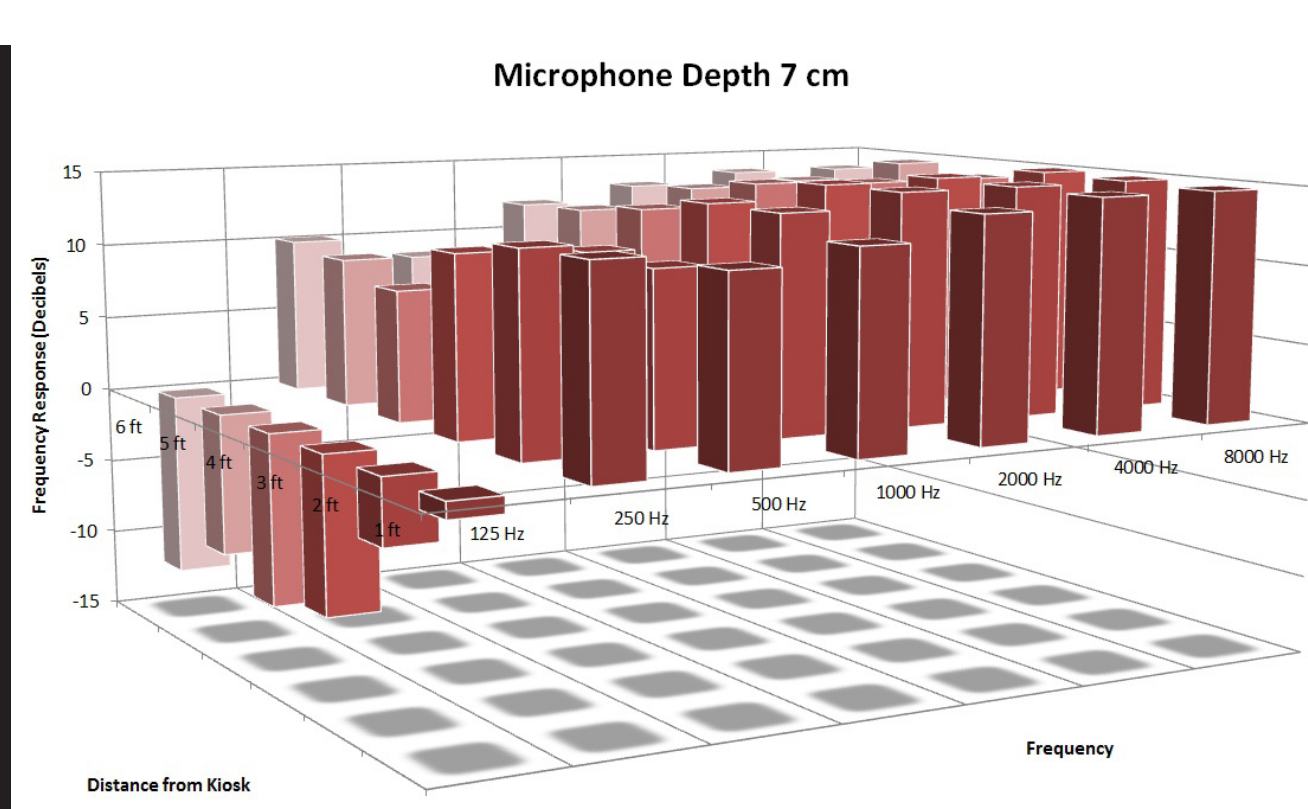
Digital Wireless systems like the Shure PGXD are much more resistant to radio frequency interference than comparable analog systems.

Existing equipment needed to be modified because PGXD modules required different signal levels and impedances than previous designs of this system.

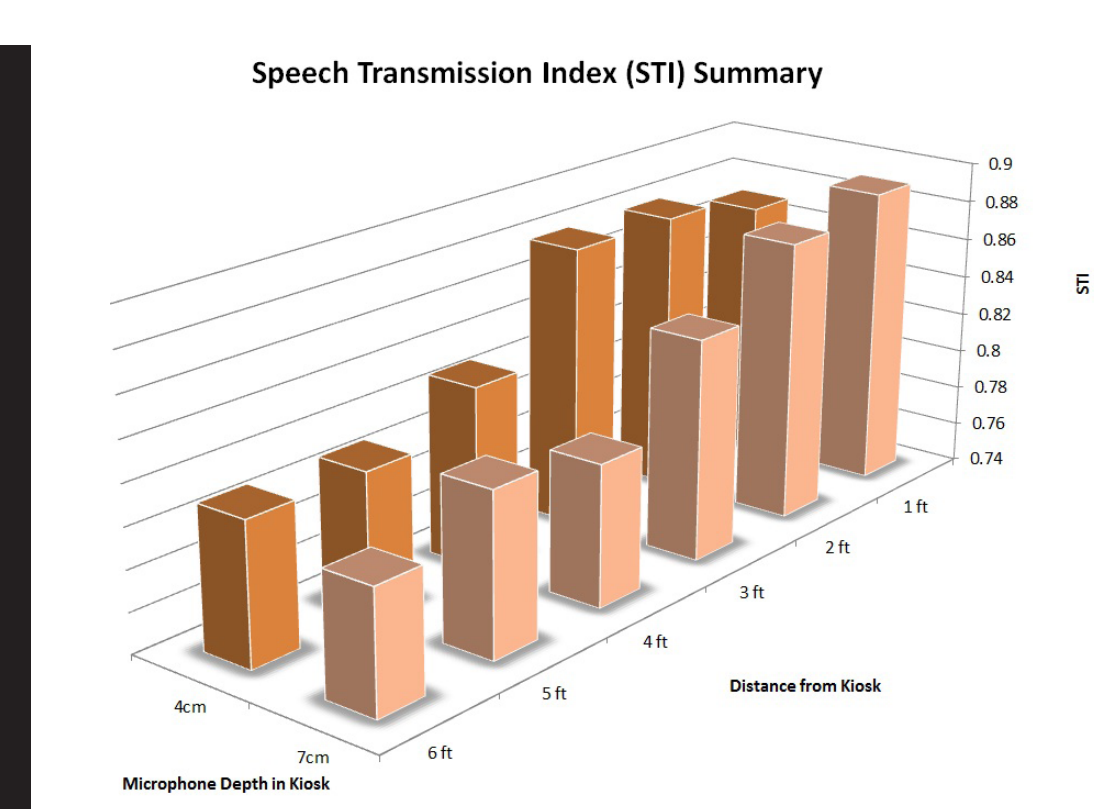
Results



Wireless System Frequency Response



Wireless System Frequency Response



Sound Transmission Index Summary

Conclusion

By adding wireless connectivity we were able to maintain audio signal quality while also providing the ease of installation that a wireless system could afford.