

The Quantum Transmitter

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Everyday Use

In everyday use of the Quantum Transmitter, the user would encounter an average looking box of technology, such as a modem, pictured in Figure 1. It would require separate hardware, left to its own innovation to have a friendly interface, however, it would contain the necessary tools to get up and running. Simply plug in to power and add an optical fiber cable to each computer that it intends to transmit data to. It is imperative that the highest quality cable is used, as that will get the best use out of the near instant transfer of data.



Fig 1. A NETGEAR modem, used to connect a home or business to the internet.

The Transmitter of the Future

In the name of Information Security, what could be better than an atomic sized pair of particles that are unique?

That's where this idea ran with, and came up with a solution to personal, local, national, and interstellar transmission of data.

Potential Impact

This could revolutionize how data is transferred from one place to another, especially in the society of today, where information is king. Of course, this mainly applies to businesses in most cases, but the future is uncertain.

Our world as we know it will inevitably change one way, and if we end up going the route of storing ourselves as data, we could too, be transmitted across the world instantly.

Works Cited

Hou, Shi-Yao, et al. "SpinQ Gemini: A Desktop Quantum Computing Platform for Education and Research." *EPJ Quantum Technology*, no. 1, Springer Science and Business Media LLC, July 2021. *Crossref*, doi:10.1140/epjqt/s40507-021-00109-8.

Customer Needs

In order for a product to come to use, it needs to have some type of market to sell. This is no exception, and it's best qualities are:

- Complete security – Nobody can intercept between these particles
- Unparalleled speed – Because no matter or energy is being transmitted, it doesn't have much to hold it back

Challenges

The main challenges that lie ahead are solving first the physics of quantum particles to a tee, and then solving the manufacturing process to continually create these. At present, there is a startup that supposedly is in development of a personal quantum computer, however that only has two qubits, running at an asking price of \$5,000 (Hou et al.).