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NASA puts ISPs to shame

Luna broadband pretty good

By [Nick Farrell](#)

Friday, 21 August 2009, 10:45

IF

YOU ARE PLEASED with your broadband connection bandwidth you could be a bit disappointed to find out how far behind the technology ball your local ISP might actually be.

NASA boffins are getting 461 gigabytes of data per day back from the Moon using a travelling wave tube amplifier.

According to [Network World](#), the Lunar Reconnaissance Orbiter (LRO) is using a pumped up communications device to deliver 461GB of data and images per day at a rate of up to 100 Mbps. It is also broadcasting it a hell of a long way.

Since most ISPs can manage only 1Mbps beyond about a mile from the local telco office, 100Mbps over 238,857 miles seems pretty good. Of course it is all one way and streaming NASA's LRO data feed into your porn collection is not going to be all that interesting unless you are into lunar rocks.

The LRO is equipped with the first high data rate K-band transmitter to fly on a NASA spacecraft. It was built by L-3 Communications Electron Technologies and uses electrodes in a vacuum tube to amplify microwave signals to high power.

It provides more power and efficiency than a transistor amplifier. It uses a new waveguide for input and output that adds strength to withstand mechanical shock and vibrations for enhanced reliability while travelling in space.

It is also starting to look like this technology could find its way into Earth satellites. NASA said that when stuck into a conventional satellites it could enable real-time data transfer.

Less powerful [Traveling](#) Wave Tube Amplifiers have been used for other planetary missions, such as Kepler and Cassini, but this one is lighter and therefore cheaper to get into space. μ

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