

## BURLE lands on Titan!

When the NASA/ESA/ASI Cassini spacecraft successfully passed through the rings of Saturn and settled into orbit around the planet after a seven year Billion mile journey, BURLE was there. On January 14<sup>th</sup>, 2005, the Huygens probe, built by the European Space Agency (ESA), was deployed from the Cassini orbiter. It descended through the cloudy atmosphere and touched down on the surface of Titan, Saturn's largest moon. This probe has many instruments designed to provide data about the conditions on Titan. One of the instruments in the Huygens probe is a gas chromatography mass spectrometer (GCMS), which analyzed the atmospheric gasses.

BURLE Electro-Optics developed and manufactured the electron multipliers for this mass spectrometer. They were affectionately referred to as the "Kissing Channeltrons®" because of the unusual orientation in pairs. These multipliers increased the sensitivity of the instrument by three orders of magnitude. The multipliers performed perfectly despite the rocket launch and the seven year Billion mile journey.

This instrument sampled the atmosphere and provided compositional analysis as a function of altitude and sent data back to Earth. The Huygens probe is the first to land on a world in the outer Solar System. Data from this mission may offer clues about how life began on Earth. Cassini-Huygens is the largest interplanetary spacecraft ever built. The Cassini spacecraft will orbit Saturn for four years to make an extensive survey of the ringed planet and its moons.

This is not the first time NASA and ESA have called upon BURLE products to help add to the understanding of the universe. Some of the other missions which included BURLE detectors were the Galileo mission to Jupiter, Ulysses, GIOTTO, FUSE, and STIS. This is truly a testament to world class design and workmanship of BURLE products.

For more information, please visit: <http://www.jpl.nasa.gov/missions/current/cassini.html> and [www.esa.int/SPECIALS/Cassini-Huygens/index.html](http://www.esa.int/SPECIALS/Cassini-Huygens/index.html).



The ion detector assembly with the BURLE Electro-Optics' Channeltron® channel electron multipliers and Saturn and its moons. Courtesy NASA/JPL-Caltech.