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**SESSION 9: Cryocooler Drive & Control  
Electronics**

**Paper No. 9-3 Wednesday Afternoon 4:00 PM**

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***Testing of a High-Capacity Pulse-Tube  
Cryocooler System for Space  
Applications***

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Creare is developing high-reliability, long-life cryocooler control electronics for Stirling and pulse-tube cryocoolers. These electronics are derived from our low-cost cryocooler control electronics that were developed and qualified for tactical space missions. The new electronics offer increased reliability and enhanced features that are tailored for the strategic space marketplace. Air Liquide's LPTC pulse-tube cryocooler is an ideal cryocooler for mating with our new electronics. The LPTC has been developed for high-reliability space missions and provides up to 7 W of refrigeration at 80 K with 160 W of AC power. Air Liquide Advanced Technologies and Creare have collaborated on an initial demonstration of the LPTC cryocooler couple with prototype electronics. This paper reviews the initial test results.