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Automated Calibration of HP 8116A Pulse/ Function Generator

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**AUTOMATED CALIBRATION OF HP 8116A
PULSE/FUNCTION GENERATOR**

by

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December 7, 2004

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ECET 491 Senior Design Projects

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ABSTRACT

The calibration of the Hewlett-Packard 8116A pulse/function generator in the calibration lab at BAE Systems had been a manual test where the calibration technician had to set up test instruments, take measurements, and record data by hand, which was a tedious process that took a significant amount of time. To speed up the calibration and reduce human error inherent in the test, the test was automated. Automation of the test was possible using test equipment equipped with a General Purpose Interface Bus (GPIB) port and a computer equipped with a GPIB controller and running National Instruments LabVIEW software. The computer set up all test equipment and processed all measurements automatically, leaving the technician needing only to make necessary equipment connections when prompted by the software. By the author's calculations, the automated test reduced the length of the calibration by 78% compared to the manual test.

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