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Thesis Title	A Construction of Digital kVp Meter for Diagnostic X-ray Tube Voltage Measurement
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#### Abstract

This thesis describes an instrument which is designed to measure the diagnostic X-ray tube voltage during an X-ray exposure by using two identical semiconductor detector with filter of different thickness. The use of the peak intensity ratio from both detectors for estimation of kVp is also discussed.

From the performance test carried, this instrument is capable to determine kVp of 1 phase diagnostic X-ray machines ranging from 75-110 kVp. The accuracy is better than 2.66 percent when compare to the RMI 230 kVp meter and it is capable to determine kVp of 3 phase diagnostic X-ray machines ranging from 75-125 kVp. The accuracy is better than 1.45 percent when compare to the RMI 230. This instrument can be interfaced to the storage oscilloscope for the X-ray waveform analysis.