

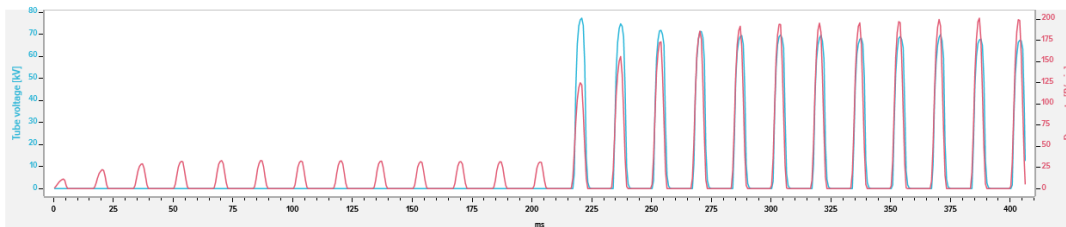
# Measuring on Gendex GX-770



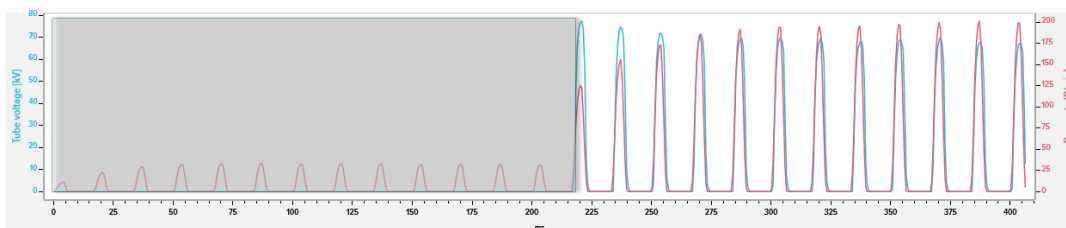
## BACKGROUND

The Gendex GX-770 produces a series of preheat pulses prior to the relevant part of the exposure. To obtain an accurate pulse count, the instrument (Xi, Solo R/F or Solo Dent) must ignore these preheat pulses. Also, the kV peaks of the first 3 ordinary pulses following the last preheat pulse are higher than those that follow. kVp must be measured after the kV pulses have leveled off to steady state.

The image below shows the radiation waveform in red and the kV waveform in blue.

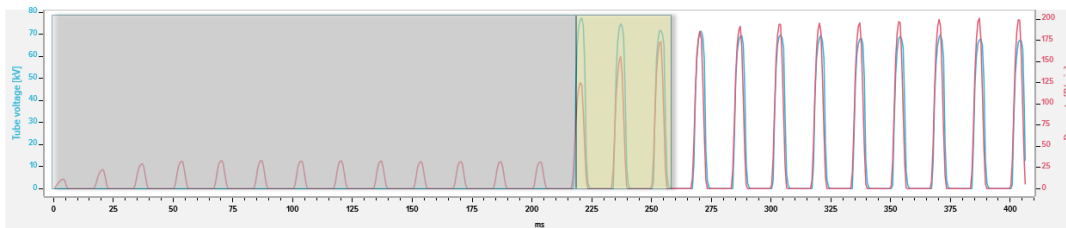


In this example, the machine was set to 12 pulses. The first 13 pulses shown are preheat pulses. The remaining 12 pulses are those that should be counted. Because the amplitude of all preheat pulses is less than 50% of the peak dose rate during the exposure, we can set a 50% trig level on the instrument. This will prevent the instrument from counting the preheat pulses because it will not trigger until the dose rate exceeds 50% of the peak dose rate. This is shown in the image below. The pulses in the grey area will not be included in the pulse count.



Also, because kVp should not be measured on the first 3 pulses after the last preheat pulse, we need to prevent the instrument from including those pulses in the measurement.

These pulses comprise the first 40 ms after the last preheat pulse. We can set kVp delay of 50 ms to prevent the instrument from including these pulses in the kVp measurement. This is shown in the image below. The kV pulses in the yellow area will not be used in the kVp measurement; however, they will be included in the pulse count.

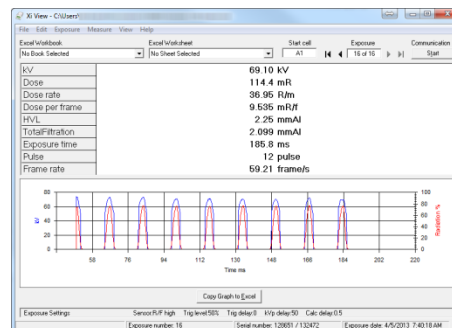


## INSTRUCTIONS

- 1) Position the Detector on a flat surface with the R/F High or DENT High sensor area centered under the cone with the cone just above the top surface of the detector. (See image.)
- 2) Power on the RaySafe instrument and select R/F High or DENT High from the Sensor Menu.
- 3) Set the kVp Delay to 50 ms. (This step can be skipped if not measuring kVp. Refer to the manual for detailed instructions.)
- 4) Set the GX-770 to the desired number of pulses, nominally 12. (The machine must be set to a minimum of 4 pulses if kVp is to be measured.)
- 5) Expose and ignore the results. (This exposure is a reference exposure used to determine 50% of the peak dose rate.)
- 6) Set the Trig Level to 50% in the Setup Menu. (Refer to the manual for detailed instructions. Dose measurements taken hereafter will not include contribution from preheat pulses.)
- 7) Expose and read the pulse count, and kVp if applicable, in the Base Unit's display or in Xi View.



The image below shows an example of results as displayed in XiView after completing step number 7.



## CONTACT

Please visit <http://www.raysafe.com> for more information.