Model 745

Digital Delay Generator (DDG)

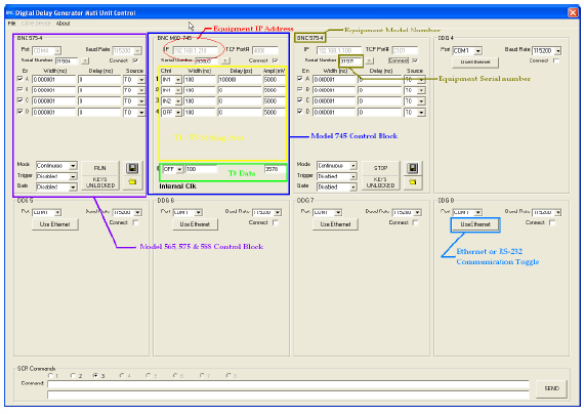
The latest Digital Delay Generator gives users the ability to step delays in tiny increments. (In a femtosecond light travels 0.0003 mm.) The Model 745 Digital Delay Generator (DDG) is a new product designed for ultra-short, precise time-control applications where users need to synchronize events to a trigger or to each other. The DDG achieves 5 picoseconds jitter with 250 femtosecond delay and pulse width control. The order -of-magnitude improvement in jitter and resolution enable research in fields such as Xray-initiated research, fast-pulsed lasers and nanocrystallography.

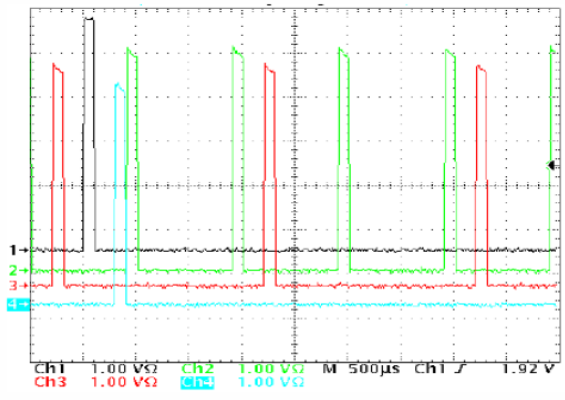
The 4 Channel DDG is the first instrument in its class to embrace browser-based controls with an embedded web-control module in the unit. Users may elect to use the interface provided by the unit rather than installing software on a PC. The browser-based control eliminates the need for purchasing, learning and programming a graphical programming platform. (See the YouTube Video Model 745 GUI for additional information.)

For complex timing applications requiring up to 64 channels of precision gating, timing, sync'ing or delaying; the DDG-MUC software package which ships with the Model 745 provides a single user interface for all channels. This utility can be used in stand-alone or woven into a proprietary control system for larger experiments.

To trigger the Model 745, users can rely on an internal clock or an external trigger. The trigger source for each channel is selectable and independent of the other channels. Examples such as high speed photography or ballistics research need a response from an instrument at a precise time following a trigger event. The triggering of a Model 745 can be done in one-shot mode or continuous mode. One shot will give the user a single delayed pulse at precisely the time required. Continuous can generate an initiating trigger and then pulses precisely delayed to that trigger for stimulus/ response-type scenarios.

An exciting feature of the Model 745 is the ability to trigger different channels at different frequencies. In the example below, the 4 Channel Unit is a combination of internal triggers and external triggers. Channel #1 and Channel #4 operate from an external trigger. Channel #2 uses an internally set trigger with frequency (F1) and Channel #3 uses an internally set trigger at a different frequency (F2).





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