Model 2100 Isolated Pulse Stimulator   A-M Systems

The Model 2100 Isolated Pulse Stimulator has been designed for a wide variety of physiological stimulation requirements. A flexible, accurate system, it can be operated free-running, manually triggered, or externally triggered. A TRIG indicator lights when an acceptable trigger is received. An EVENT indicator lights whenever a pulse is delivered.

The operator describes the desired pulse train by setting four times: The delay time (time between trigger and the first pulse); train burst width time; individual pulse duration; and interpulse period (the duration of a single pulse on/off cycle). If the period is set to be shorter than the pulse duration, a timing overlap error LED indicator warns the user of this condition.

For ease of use, the delay may be set to "none", so that no extra delay occurs between trigger and pulse output. The burst width may be set to "single," so that only a single pulse is output for a single triggering event. This has the additional effect of suppressing the post-pulse delay associated with the inter-pulse period, thus allowing the stimulator to become immediately retriggerable, instead of waiting until the end of the period. The pulse duration may be set to "square", automatically setting the duration to one half of the period.

The times are easily and rapidly set with leverwheel switches, which are much more convenient than thumbwheel switches. The timing accuracy is dependent only on a 10 MHz internal crystal clock which has an absolute accuracy of better than 0.02 % and timer-start jitter of ±250 ns (±2.5 µs in the 100 second range).

The full-scale amplitude accuracy is 1%, with a voltage-mode output impedance of less than 60 Ohms, and a current-mode output impedance of at least 1 MegOhms. The output pulses may be monophasic (selectable polarity) or biphasic, in which a positive pulse is immediately followed by a negative pulse. The baseline amplitude is independently adjustable up to ±10 % of the pulse amplitude range.

Features:

- Timing range from 1 µS to over 15 minutes.
- Highly accurate! Better than 0.02 %
- Optically Isolated Output Built-In!
- Mono or Biphasic Output Capability
- Status Indicators
- Triggering Capabilities