16. Function/Arbitrary Generators - waveform generation
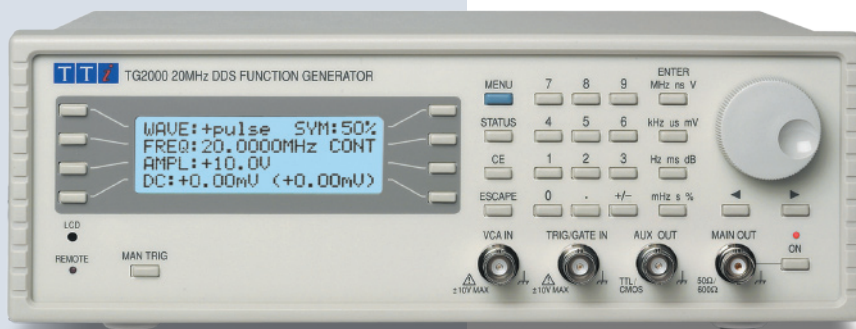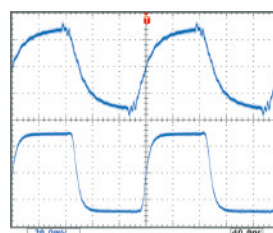
Measurably better value

TG1000 & TG2000

▶ 10/20MHz DDS function generator

▶ High stability and resolution

▶ USB & RS232 interfaces (TG2000)

Further details are provided in the comparison table on P15. Full details are available on the web site.

The TG2000 is a high performance DDS based function generator covering the range 1mHz to 20MHz.

It is ideal for engineers who require a high stability and high resolution function generator, but who do not require arbitrary waveforms.

The TG1000 has a lower maximum frequency of 10MHz and omits the RS232 and USB interfaces of the TG2000.

▶ 0.001Hz to 10MHz or 20MHz frequency range

▶ 6 digits or 1mHz resolution

▶ 1ppm stability and 10ppm one year accuracy

▶ Low distortion, high spectral purity sine waves

▶ Internal phase-continuous sweep, lin or log

▶ AM, FSK, gated and tone switching modes

▶ 5mV to 20V pk-pk from 50Ω or 600Ω

▶ Storage for multiple instrument set-ups

▶ USB and RS232 Interfaces (TG2000 only)

Unlike some other lower cost DDS based generators, the TG1000 and TG2000 provide digital control of all parameters and functions.

This allows for the complete instrument status to be stored in the set-up memories.

On the TG2000, it also enables complete control via the digital bus interfaces.

Waveform Quality

Ultimately what matters in a function generator is the quality of the output signal. The TG1000 and TG2000 maintain the TTi reputation for high signal quality at all frequencies and all levels.
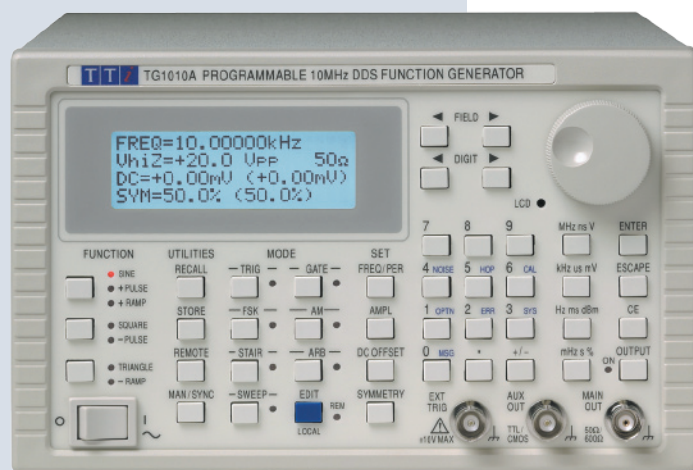
The waveform capture opposite shows just how much difference that can make The 'scope display opposite was captured from two 5MHz square wave signals each at 60mV pk-pk level into 50 Ω.

The upper waveform is from a widely available competitive DDS generator. The lower waveform is from a TG2000.

TG1010A

▶ 10MHz DDS function generator

▶ Arbitrary waveform capability

▶ Wide range of modulations

▶ RS-232 and optional GPIB

Full details are available on the web site.

The TG1010A is a high performance 10MHz DDS function generator with extensive modulations and the added benefit of basic arbitrary waveform capabilities.

It can produce frequencies down to 0.0001 Hz and has a built-in trigger generator. Triggered bursts with variable start-stop phase is available for all waveforms.

Wide range phase-continuous sweep is available at rates from 10ms to 15 minutes. Amplitude modulation is provided for all waveforms and an internal AM source is incorporated. The frequency agility of the DDS system is used to provide FSK and Frequency Hop facilities.

Arbitrary waveforms can be loaded via the digital interfaces and then used in a similar way to the standard waveforms. In addition, the TG1010A offers numerous "complex" waveforms pre-defined in ROM. These include commonly used wave-shapes such as sine x/x, decaying sinewave, exponential rise and fall etc.

▶ 0.1mHz to 10MHz frequency range, 7 digit resolution.

▶ Eight standard waveforms, plus multiple "complex" waveforms, true arbitrary waveforms and noise.

▶ Powerful modulation modes including Sweep, AM, Gating, Trigger/Burst, FSK and Hop.

▶ Variable symmetry, variable start/stop phase.

▶ 20V pk-pk output from 50Ω or 600Ω (switchable).

▶ Storage for five Arbitrary waveforms (1024 x 10-bits).

▶ Fully programmable via RS-232 or optional GPIB interfaces

For more complete information on any product, please visit our web site: **www.aimtti.com**