

Technical Data Sheet

TEGAM 2714A 20 MS/s Arbitrary Waveform Generator

Output Waveforms

Up to 100 High-Definition User-defined Waveforms,
Standard Waveforms: Sine, Square, Triangle, Ramp, DC,
Exponential, Haversine, Pulse, Gaussian, Sin x/x (Sinc).

Sequence Generator (Optional)

Waveform: Transient-free Loop and Link
Repetitions: Loop: 1,048,575 times Link: 100 waveforms
Program: 100 Steps per Sequence
File: 10 Sequences

Waveform

Storage: 100 waveforms

Resolution:

Horizontal Points: 131,036 max.

Vertical Points: 12bits, 4096 (-2048 to +2047)

Sample Rate:

Range: 0.1Hz to 20MHz (10s to 50ns)

Resolution: 4 digits

Accuracy: $\pm 50\text{ppm}$

Transition Time: <20ns

(Tested with square wave, filter off, 10Vp-p, 50?
termination.)

THD + Noise: -65dB typical (20kHz sinewave)

(Tested with 80kHz measurement bandwidth, 20MHz clock, sinewave, 1000
points, filter on, full amplitude, 50? termination.)

Amplitude and Offset

Range	Resolution	Accuracy
± 1.00 to 10V	10mV	1% of setting + 20mV
$\pm 100\text{mV}$ to 999mV	1mV	3% of setting + 5mV
$\pm 10\text{mV}$ to 99.9mV	100?V	5% of setting + 1mV

(Tested with 1kHz sinewave plus DC offset, 50? source impedance, open
circuit.)

Selectable Analog Filter

Cutoff: 7MHz, 7th order

Operational Modes

Continuous: Output runs continuously between selected
memory address locations.

Triggered: Output at start point until triggered, then runs
once.

Gated: As triggered except output is continuous until gate
signal ends.

Burst: Each trigger outputs a preprogrammed number of
waveforms from 1 to 1,048,575.

Toggled: Alternate triggers gate the output waveform.

Master-Slave: For multi-unit operation.

Cont-Sync: multiple units run continuously in sync with
the master unit

Trig-Sync: multiple units run in sync with the master unit
for one cycle when the master unit is triggered.

Trig-Sequence: a tail-chasing mode between the master
and the slave unit initiated by triggering the master unit.

Outputs

Output: Front-panel main waveform output, 50?
impedance.

Sync Output: Front-panel TTL sync output, 50?
impedance.

Clock Out: Rear-panel AWG waveform sample clock
output (TTL). x2 sample clock.

Reference Out: Rear-panel internal 10MHz reference
output (TTL).

Sync Trigger Out: Triggers additional units

Inputs

Trigger Input: Rear-panel TTL trigger input for triggered,
gated, burst, toggled and master-slave modes.

External TTL Sample Clock Input: ? 20MHz

Reference In: Rear-panel 10MHz reference input will
phase lock the internal crystal-controlled oscillator.

Trigger Sources

External Trigger Input

Manual Trigger

Waveform Creation Tools

Software: WaveWorks Jr. for Windows

Operating System: Windows 95 or 3.1; MS-DOS 6.2

PC Requirements: 486DX or better with 4MB RAM space

Interface: COM port or National Instrument AT-GPIB card
(or equivalent)

Standard Function: 21

Math Operations:

Operators: 6

Transfer Function: 12

Sequence Creation (optional hardware required)

Waveform Analysis:

Frequency Domain: FFT and IFFT: up to 500th

harmonic, graphic display and
tabulation

Time Domain: Waveform and Digital Pattern

Edit: Point, Vertex and Harmonics (FFT, IFFT).

Computer Interface

RS-232C: 19.2kBaud. max.

GPIB: IEEE Std. 488.2-1987

General

Temperature Range: $+23^{\circ}\text{C} \pm 3^{\circ}\text{C}$ for specified operation.
Operates 0°C to $+50^{\circ}\text{C}$. Storage -20°C to $+60^{\circ}\text{C}$.

Dimensions: 11.5cm (4.53 in.) H; 25.8cm (10.14 in.) W;
30cm (11.81 in.) D.

Weight: 5.0kg (11 lbs)

Power: 55VA; 45W (max) 100/120/220/240 VAC. +5%,
-10%; 48 to 63 Hz.

Weight and dimensions are approximate. Errors and omissions excepted.
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