

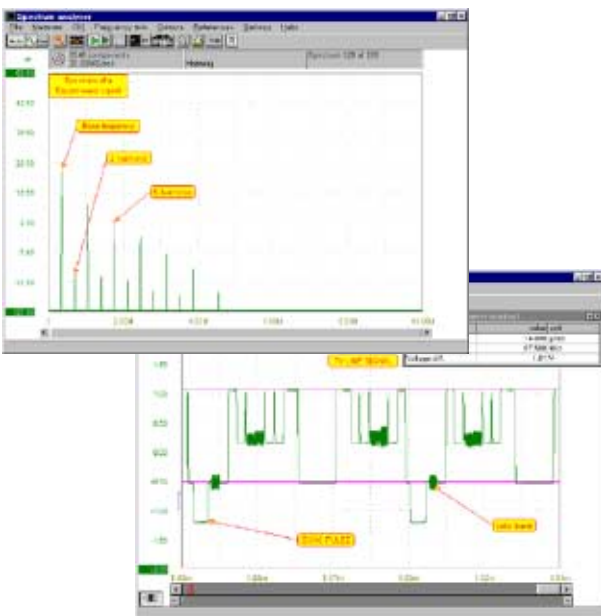
DIGITAL STORAGE OSCILLOSCOPE SPECTRUM ANALYZER TRANSIENT RECORDER VOLTMETER

TE6100

- Four Instruments In One
- 100 MS/Sec DSO/Spectrum
- DC to 50MHz Bandwidth
- 100mV to 80V Full Scale
- Powerful Software



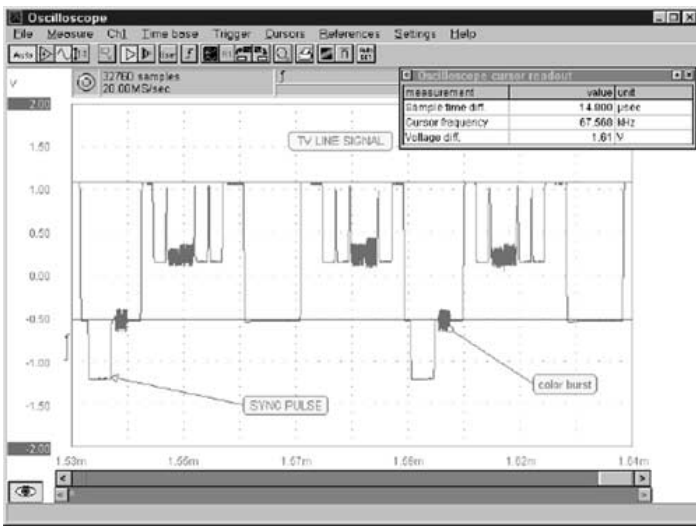
The TE6100 is the first 100 MS/SEC measuring instrument that consists of a Digital Storage Oscilloscope, Spectrum Analyzer, Transient recorder and Voltmeter. This new PXI based, compact measuring instrument, can solve almost every measurement problem. Analyzing signals is done with an 8-bit resolution and a maximum sampling speed of 100 MHz. The input ranges 0.1 Volt full scale to 80 Volt full scale. The record length is 32K/64K samples.



SPECIFICATIONS

Hardware

Input channels	2 analog BNC, 1 digital external trigger
A/D converter	
Resolution	8 bits = 0.39%
Effective data throughput	50000000 samples/sec, 100 000 000 samples/sec on one channel
Conversion time	20 nsec, 10 nsec on one channel
Analog input BNC	
Sensitivity	100 mvolt .. 80 volt full scale
Maximum voltage	200 volt (DC + AC peak < 10 kHz)
Impedance	1 MΩ / 30 pF
Coupling	AC / DC
Accuracy	1% ± 1 LSB
Bandwidth	DC to 50 MHz
Digital external trigger	0 - 5 Volt TTL
Trigger system	digital, 2 levels
Trigger modes	edge, window, peak, TV, external
Level adjustment	0 - 100% of full scale
Resolution	0.39% (8 bits)
Pre trigger	0 - 32768 samples (0 - 100%)
Post trigger	0 - 32768 samples (0 - 100%)
Maximum sample rate	50 MHz on 2 channels, 100 MHz on 1 channel
Memory	32/64 KWord per channel
Ambient temperature	10 °C - 35 °C
Dimensions	PXI, 3U single slot
Accessories	2 oscilloscope probes 1:1 - 1:10 switchable



DIGITAL STORAGE OSCILLOSCOPE

Time Base

Record length
Pre trigger
Sampling
Magnification

adjustable between 10 samples and 32760 samples
adjustable between 0 and 100%
adjustable between 100 mHz - 100 MHz
adjustable between 1 and ± 50 (depends on display size)

Vertical

Sensitivity
Coupling
Hardware
Software
Software gain
Software invert yes
Measurement unit
Axis re-definable

100 mV.. 80 V full scale in 2-4-8 sequence and autoranging
AC / DC selectable through menu, button and keyboard
offset $-2 * \text{input range} .. +2 * \text{input range}$
offset $-\text{input range} .. +\text{input range}$, mouse controlled
0.25 .. 4, mouse controlled

12 presets and user definable
yes

Trigger

Source

Ch1, Ch2, Ch1 and Ch2, Ch1 or Ch2, Ch1 xor Ch2, Analog Ext, Digital Ext Rising slope, falling slope, inside window, outside window, TV frame, TV line

Mode

fully adjustable between $+\text{input range}$ and $-\text{input range}$ and autolevel fully adjustable between 0 and $2 * \text{input range}$
0 - 100 sec and infinite

Level
Hysteresis
Time out

Measuring

Channels
XY
Single shot
Auto setup
Averaging
Envelope mode
Auto disk logging

Ch1, Ch2, Ch1 and Ch2
yes
yes
yes, affects sensitivity, trigger level and sampling frequency
1 - 256 measurements
yes, resets after 2 .. infinite measurements (user selectable)
yes

Math

Functions

yes, in separate trace
Ch1 + Ch2
Ch1 - Ch2
Ch2 - Ch1

Cursors

Vertical readout
Horizontal readout
Measurements readout

Rise time readout
Phase difference
Other features

two pair horizontal and vertical
voltage left, voltage right, voltage difference
time left, time right, time difference, cursor frequency
True RMS, Peak to peak, Mean, Max, Min, dBm, Power, Crest factor, frequency, duty cycle
at left cursor, at right cursor
readout degrees, rad, cos()
selectable between free adjustable and waveform based
automatic zero crossing detection readout window fully configurable

Reference channels

Individually selectable
Scaleable to live signals yes

2, one for each live channel
yes

Miscellaneous

Save/recall waveforms
File type
Save/restore settings
Hardcopy
Hardcopy preview
Measurement comment
Text balloons
Interpolation

yes
binary / ascii
yes
yes, color / black
yes
yes, 3 lines of 80 characters
yes, fully configurable
yes, linear and quadratical

SPECTRUM ANALYZER

Frequency Axis

Record length	32, 64, 128, 256, 512, 1024, 2048, 4096 bins
Frequency range	adjustable between 50 mHz - 50 MHz
Magnification	adjustable between 1 and ± 50 (depends on display size)
Axis type	linear, logarithmic, in octaves, in thirds of octaves

Vertical

Sensitivity	100 mV .. 80 V full scale in 2-4-8 sequence & autoranging
Coupling	AC / DC selectable through menu, button and keyboard
Hardware offset	-2 * input range .. +2 * input range
Software offset	-input range .. +input range, mouse controlled
Software gain	0.25 .. 4, mouse controlled
Software invert	yes
Measurement unit	12 presets and user definable
Axis type	linear / logarithmic
Axis re-definable	yes

Measuring

Channels	Ch1, Ch2, Ch1 and Ch2
Single shot	yes
Averaging	1 - 256 measurements
Measuring max.	values yes
Total Harmonic Distortion	yes, up to 100 harmonics (selectable) in % and dB
Isolation of harmonics	yes
Windowing functions	rectangle, Hamming, Hanning, Bartlett, Parzen, Blackman

Cursors

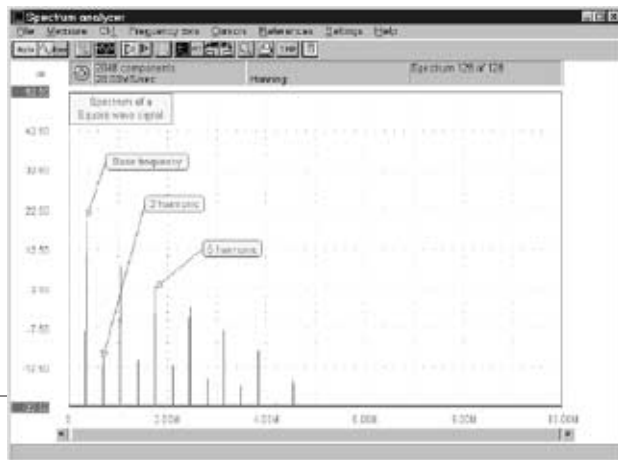
Vertical readout	voltage left, voltage right, voltage difference
Horizontal readout	frequency left, frequency right, frequency difference
THD	yes
Other	features selectable between free adjustable and waveform based readout window fully configurable

Reference Channels

Individually	2, one for each live channel
Scaleable to live signals	yes

Miscellaneous

Save/recall waveforms	yes
File type	binary / ascii
Save/restore settings	yes
Hardcopy	yes, color / black
Hardcopy preview	yes
Measurement comment	yes, 3 lines of 80 characters
Text balloons	yes, fully configurable



VOLTMETER

Display

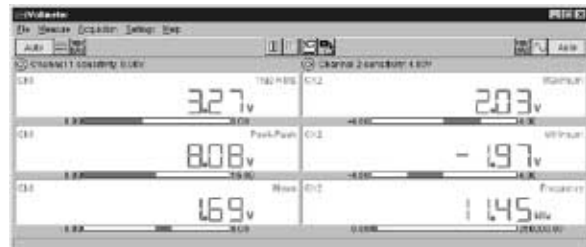
Per channel	0 - 3
Measurements	True RMS, Peak to peak, Mean, Max, Min, dBm, Power, Crest factor, frequency, duty cycle
Displayed value	Ch1, Ch2, Ch1+Ch2, Ch1-Ch2, Ch2-Ch1, Ch1*CH2, Ch1/Ch2, Ch2/Ch1, Min, Max, > then HI, < then LO, <> HI LO, >> COMP, log(Ch1/Ch2), log(Ch2/Ch1)
Measurement unit	Volt, Ampere, degrees C, degrees F, Watt, percent, Bar, Coulomb, Newton, Hertz, meter, kilogram
Number of decimal figures	0..5 and automatic
Relative measuring	yes
Bar graph	yes

Measuring

Channels	Ch1, Ch2, Ch1 and Ch2
Single shot	yes
Averaging	yes, 3 measurements
Logging	disk or printer
Logging speed	0 .. 300 sec between measurements

Logic compare measurements

Compare levels	compare measured value to levels and show LO, HI, PASS or FAIL
Measurements	2, LO and HI > then HI < then LO <> LO HI >> COMP
Sounds	individual sounds assignable to LO, HI, PASS and FAIL



TRANSIENT RECORDER

Time Base

Record length	adjustable between 10 samples and 32760 samples
Sampling speed	adjustable between 2 mHz - 100 Hz
Magnification	adjustable between 1 and ± 50 (depends on display size)
Axis mode	adjustable between sample time and real time

Vertical

Sensitivity	100 mV .. 80 V full scale in 2-4-8 sequence
Coupling	AC / DC selectable through menu, button and keyboard
Hardware offset	-2 * input range.. +2 * input range
Software offset	-input range.. +input range, mouse controlled
Software gain	0.25.. 4, mouse controlled
Software invert	yes
Measurement unit	12 presets and user definable
Axis re-definable	yes

Measuring

Channels	Ch1, Ch2, Ch1 and Ch2
Scroll mode	roll mode, scan mode
Auto disk logging	yes
Auto start measuring	yes

Cursors

Vertical readout	two pair horizontal and vertical voltage left, voltage right, voltage difference
Horizontal readout	time left, time right, time difference, cursor frequency
Measurements readout	True RMS, Peak to peak, Mean, Max, Min, dBm, Power, Crest factor, frequency, duty cycle
Rise time readout	at left cursor, at right cursor
Phase difference	readout degrees, rad, cos()
Other features	selectable between free adjustable and waveform based automatic zero crossing detection readout window

Reference channels

Individually selectable	fully configurable
Scaleable to live signals	yes

Miscellaneous

Save/recall waveforms	yes
File type	binary / ascii
Save/restore settings	yes
Hardcopy	yes, color / black
Hardcopy preview	yes
Measurement comment	yes, 3 lines of 80 characters
Text balloons	yes, fully configurable
Interpolation	yes, linear and quadratical
