# TEAM SOLUTIONS, INC

DIGITAL STORAGE OSCILLOSCOPE
SPECTRUM ANALYZER
TRANSIENT RECORDER
VOLTMETER

TE6100

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

PXI

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.


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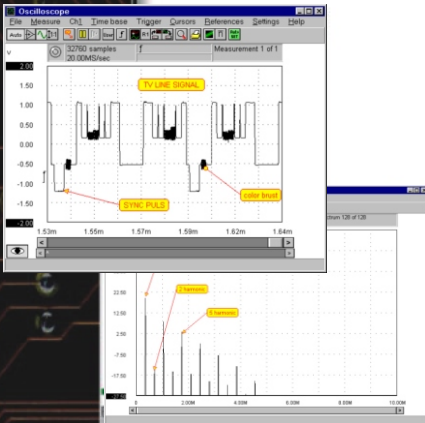
SPECIFICATIONS

Hardware

Input channels	2 analog BNC, 1 digital external trigger
A/D converter	
Resolution	8 bits=0.39%
Effective data throughput	50,000,000 samples/sec, 100,000,000 samples/sec on one channel
Conversion time	20 nsec, 10 nsec on one channel
Maximum Voltage	200 volt (DC+AC peak <10 kHz)
Impedance	1Mohm/ 30 pF
Coupling	AC/DC
Accuracy	1% ± 1 LSB
Bandwidth	DC to 50 MHz
Digital external trigger	0-5 volt TTL
Trigger system	digital to levels 8 bit resolution
Trigger modes	edge, window, peak, TV, external
Level adjustment	0-100% of full scale
Resolution	0.39% (8bit)
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 one 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
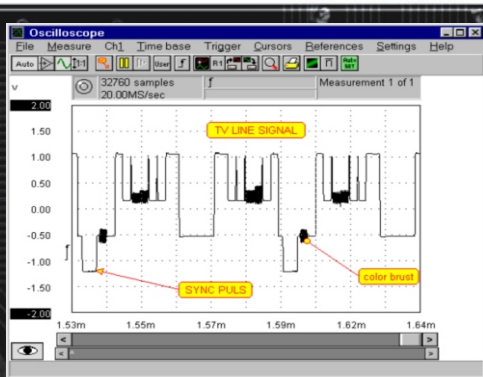
DIGITAL STORAGE OSCILLOSCOPE

Time Base

Record length	adjustable between 10 samples and 32760 samples
Pre trigger	adjustable between 0 and 100%
Sampling	adjustable between 100 mHz - 100 MHz
Magnification	adjustable between 1 and ±50 (depends on display size)

Vertical

Sensitivity	100 mV.. 80 V full scale in 2-4-8 sequence and 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 re-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 +input range and -input range and autolevel fully adjustable between 0 and 2 * input range
Level	0 - 100 sec and infinite
Hysteresis	0 - 100%
Time out	0 - infinite

Measuring

Channels	Ch1, Ch2, Ch1 and Ch2
XY	yes
Single shot	yes
Auto setup	yes, affects sensitivity, trigger level and sampling frequency
Averaging	1 - 256 measurements
Envelope mode	yes, resets after 2 .. infinite measurements (user selectable)
Auto disk logging	yes
Math	yes, in separate trace
Functions	Ch1 + Ch2, Ch1 - Ch2, Ch2 - Ch1

Cursors

Cursors	two pair horizontal and vertical
Vertical readout	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 fully Configurable

Reference channels

Reference channels	2, one for each live channel
Individually selectable	yes
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

SPECTRUM ANALYZER

Frequency Axis

Record length	32, 64, 128, 256, 512, 1024, 2048, 4096, 8192 and 16384 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

Cursors	two pair horizontal and vertical
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

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Individually selectable	yes
Scaleable to live signals	yes

Miscellaneous

Save/recall waveforms	yes
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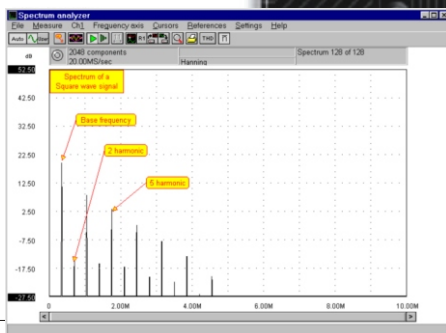
VOLTMETER

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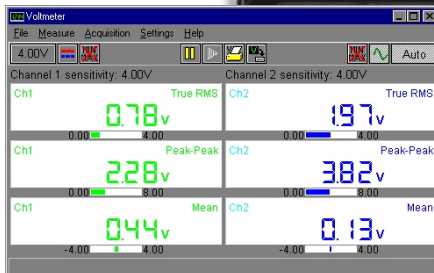
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SPECIFICATIONS

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 .. 80V full scale in 2-4-8 sequence
Coupling	AC/DC selectable through menu, button and keyboard
Hardwar 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
Display mode	roll mode, scan mode
Auto disk logging	yes
Auto start measuring	yes

Cursors

Cursors	two pair horizontal and vertical
Vertical readout	voltage left, voltage right, voltage difference
Horizontal readout	time left, time right, time difference, cursor frequency
Measurementa 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 fully configurable

Reference channels

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

Miscellaneous

Save/recall waveforms	yes
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Interpolation	yes, linear and quadratical

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