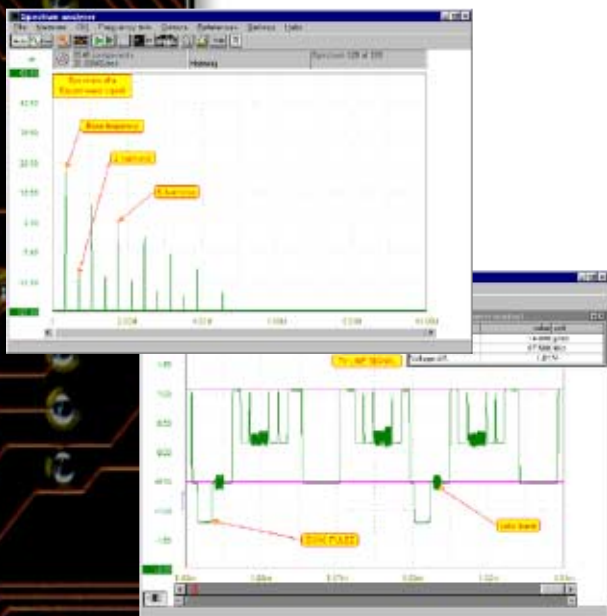


- Four Instruments In One
- 100 MS/Sec DSO/Spectrum
- DC to 50MHz Bandwidth
- 100mV to 80V Full Scale
- Powerful Software



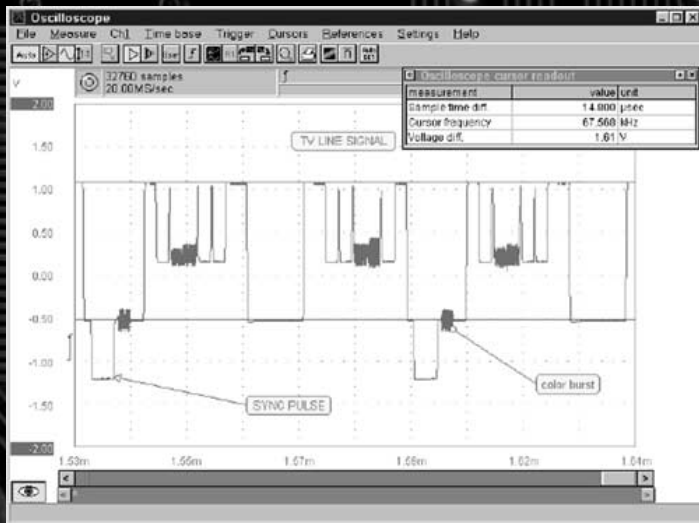
The TE6100 is the first 100 MS/SEC measuring instrument that consists of a Digital Storage Oscilloscope, Spectrum Analyzer, Transient recorder and Voltmeter. This new PXI based, compact measuring instrument, can solve almost every measurement problem. Analyzing signals is done with an 8-bit resolution 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,<br>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  $\pm 50$  (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

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# SPECTRUM ANALYZER

## Frequency Axis

Record length  
Frequency range  
Magnification

32, 64, 128, 256, 512, 1024, 2048, 4096 bins  
adjustable between 50 mHz - 50 MHz  
adjustable between 1 and  $\pm 50$  (depends on display size)  
linear, logarithmic, in octaves, in thirds of octaves

Axis type

## Vertical

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

100 mV .. 80 V full scale in 2-4-8 sequence & autoranging  
AC / DC selectable through menu, button and keyboard  
-2 \* input range .. +2 \* input range  
-input range +input range, mouse controlled  
0.25 .. 4, mouse controlled  
yes  
12 presets and user definable  
linear / logarithmic  
yes

## Measuring

Channels  
Single shot  
Averaging  
Measuring max.  
Total Harmonic Distortion  
Isolation of harmonics  
Windowing functions

Ch1, Ch2, Ch1 and Ch2  
yes  
1 - 256 measurements  
values yes  
yes, up to 100 harmonics (selectable) in % and dB  
yes  
rectangle, Hamming, Hanning, Bartlett, Parzen, Blackman

## Cursors

Vertical readout  
Horizontal readout  
THD  
Other

two pair horizontal and vertical  
voltage left, voltage right, voltage difference  
frequency left, frequency right, frequency difference  
yes

## Reference Channels

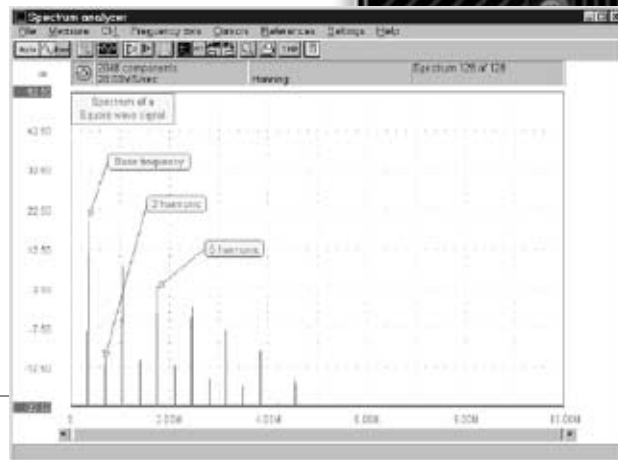
Individually  
Scaleable to live signals yes

2, one for each live channel  
selectable yes

## Miscellaneous

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

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



# VOLTMETER

## Display

Per channel  
Measurements

Displayed value

Measurement unit

Number of decimal figures  
Relative measuring  
Bar graph

0 - 3  
True RMS, Peak to peak, Mean, Max, Min, dBm, Power,  
Crest factor, frequency, duty cycle  
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)  
Volt, Ampere, degrees C, degrees F, Watt, percent, Bar,  
Coulomb, Newton, Hertz, meter, kilogram  
0..5 and automatic  
yes  
yes

## Measuring

Channels  
Single shot  
Averaging  
Logging  
Logging speed

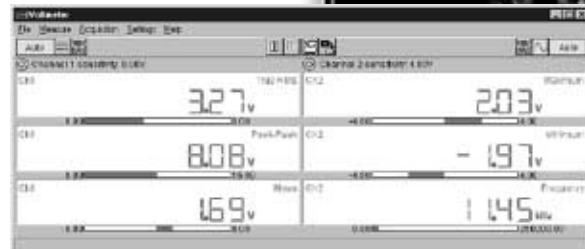
Ch1, Ch2, Ch1 and Ch2  
yes  
yes, 3 measurements  
disk or printer  
0 .. 300 sec between measurements

Logic compare measurements

Compare levels  
Measurements

Sounds

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



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# SPECIFICATIONS

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Established in 1999, TEAM's mission is to provide its customers with state-of-the-art, PC-Based, Test & Measurement instrumentation. TEAM's products are offered in ISA, PCI, External (Parallel/USB driven), Compact PCI and PXI configuration.

## 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 $\pm 50$ (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   |
| Horizontal readout   | voltage left, voltage right, voltage difference  |
| Measurements readout | time left, time right, time difference, cursor frequency   |
|                      | 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 | 2, one for each live channel |
|                           | 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   |

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- Up to 18 slots, Industrial PC & Compact PCI/PXI enclosures
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