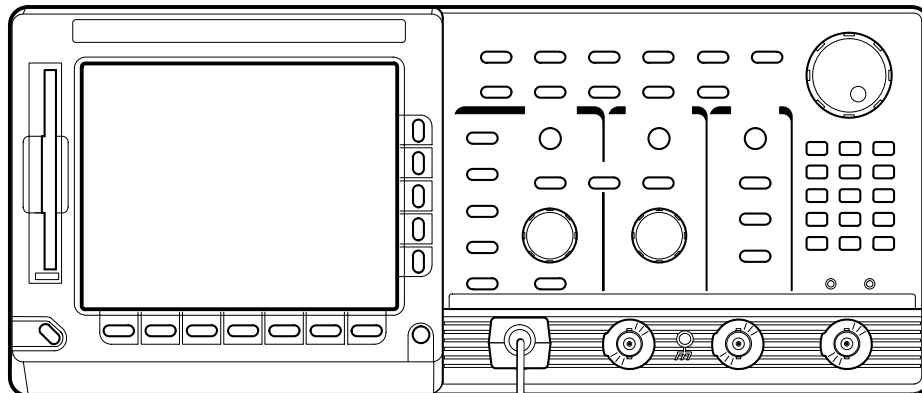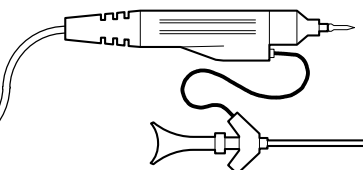# Product Description

The Tektronix TDS Oscilloscope is a superb tool for acquiring, displaying, and measuring waveforms. Its performance addresses the needs of both benchtop lab and portable applications with the following features:

- A maximum sample rate of up to 5 GS/s per channel, depending on the model (see Table 1–1 *Key Features and Differences of by Models*)

- A analog bandwidth of 1 GHz or 500 MHz, depending on the model (see Table 1–1)

- Records lengths up to 50 K standard and 500 K with Option 1M, depending on the model (see Table 1–1)

- Four channel or 2 + 2 channel operation, depending on model. (Two plus Two channel operation allows two of four channels to be displayed simultaneously.) All channels have 8-bit resolution. (See Table 1–1.)

- Trigger modes include edge, logic, and pulse. Video trigger modes, available with option 05 only, include NTSC, SECAM, PAL, HDTV, and FlexFormat™.

- Dual Window Zoom, which shows a waveform magnified and unmagnified on the same display — on all TDS 600B and TDS 700 Oscilloscopes

- Sample, envelope, average, high res, peak-detect and InstaVu™ acquisition mode, which updates the display at rates rivaling the fastest analog oscilloscopes (see Table 1–1 for models and modes available)

Differences by Model

Table 1–1 lists some key TDS features and relates them to the different TDS models that this manual covers.

Table 1–1: Key Features and Differences of Models

Feature	520B	540B	620B	644B	680B	684B	724A	754A	782A	784A
No. of channels	$2+2^1$	4	$2 + 2^1$	4	$2 + 2^1$	4	$2 + 2^1$	4	$2 + 2^1$	4
Digitizing rate, max.	1 GS/s	2 GS/s^2	2.5 GS/s		5 GS/s		1 GS/s	2 GS/s	2 GS/s	4 GS/s
No. of Chs. @ max. rate	1		2	4	2	4	1	2	1	
Analog Bandwidth	500 MHz				1 GHz		500 MHz		1 GHz	
Record Lengths, max.	To 50K/Channel^3		To 15K/Channel				To 50K/Channel^3			
InstaVu Acquisitions	Yes		No				Yes			
Hi Res Acquisitions	Yes		No				Yes			
Advanced DSP Math^4	Opt. 2F			Std.^{5}	Opt. 2F		Std.			
Storage, Floppy Disk	Opt. 1F			Std.	Opt. 1F		Std.			
I/O includes RS–232 and Centronics^6	Opt. 13			Std.	Opt. 13		Std.			
Display	Mono			Color	Mono		Color			

[1]   Two plus Two channel operation allows two of four channels to be displayed simultaneously. Channels not displayed can be used to couple a triggering signal to the oscilloscope.

[2]   This TDS model can be purchased with Option 1G, which limits the maximum digitizing rate to 1GS/second. This option allows sales in export-controlled countries. See Option 1G on page A–1.

[3]   This TDS model can be purchased with Option 1M, which adds longer record length settings. See Option 1M on page A–2.

[4]   Advanced digital signal processing provides FFTs, integrals, and differentials of waveforms. See Option 2F on page A–4.

[5]   Std. denotes a standard product feature as opposed to a feature included as part of an option.

[6]   GPIB I/O included with all models.

Product Specification

The product specification is found in the technical reference *TDS 500B, TDS 600B, & TDS 700A Technical Reference (Performance Verification and Specifications)* that is shipped as a standard accessory with the TDS Oscilloscope.