Tektronix®

Electronics Teaching Lab Bench Configurations

SELECTION GUIDE

Plan your education lab bench with confidence to prepare students for real-world engineering through hands-on experience with modern, industry-grade equipment.

Start with one of our four recommended education bench configurations to create the bench best suited for your students.

Electronics Teaching Lab Bench Configurations – Overview

	Fundamental Teaching Lab	Embedded Design Lab	Power Electronics and Energy Lab	RF and Communications Lab
Oscilloscope	1 Series DPO	2 Series MSO	3 Series MDO / 4 Series MSO	3 Series MDO / 4 Series MSO
Spectrum Analyzer	–	–	–	RSA306B
Recommended Probes	–	P6316 Logic Probe	TCP0030A Current / THDP0200 Differential Voltage	–
Power Supplies	2231A-30-3	2231A-30-3	2231A-30-3	2231A-30-3 /2281S
Digital Multimeter	DMM6500	DMM6500	DMM6500	DMM6500
Source Measure Unit	–	–	2450 SMU	–
Arbitrary Function Generator	AFG1062	AFG31000	AFG31000	AFG31000
Software	–	2-SERIAL 2-ULTIMATE (included in the 2 Series EDU Bundle)	3-PWR Power Analysis Software 4-Pro-Power Software	Signal-Vu Spectrum Analyzer Software

Fundamental Teaching Lab

The Fundamental Teaching Lab keeps learning simple while including essential, up-to-date capabilities, giving students the tools they need to master today's circuit design challenges. This bench includes the NEW 1 Series DPO, with all the essentials and a intuitive touchscreen interface.

1 Series DPO

The 1 Series DPO packs all the essentials into a sleek form with an intuitive touch UI, familiar across all Tektronix oscilloscopes.

Key Features

- 50 MHz – 200 MHz
- 2 or 4 channels
- 25 MHz AFG (S model only)
- Protocol decode
- 7-inch touchscreen display

Learn More

DMM6500

The DMM6500 offers more measurement capability including transient capture, data visualization, and analysis – at a great price.

Key Features

- 0.0025% DCV accuracy (1 year)
- 1 Msample/s digitizing, 16-bits
- 100 nV, 10 pA, and 1 µΩ sensitivities
- 5-inch touchscreen display

Learn More

2231A-30-3

This DC power supply is ideal for testing a wide range of devices in the education lab.

Key Features

- 3 isolated outputs
- Total Power 195 W
- Max Voltage 30 V
- Max Current 3 A
- USB Connectivity

Learn More

AFG1062

With 25 MHz or 60 MHz bandwidth, 2 output channels, 1 mVpp to 10 Vpp output amplitude across full bandwidth, Tektronix AFG1000 Arbitrary/Function Generator generates comprehensive waveforms for teaching labs.

Key Features

- 60 MHz arbitrary/function generator
- Dual-channel output
- Built-in standard and arbitrary waveforms
- USB connectivity for PC control and waveform upload

Learn More

Embedded Design Lab

The embedded design bench enables students to measure mixed-signal designs with microcontrollers, digital signals, serial buses, and analog sensors.

2 Series MSO

Unlock more space on your bench without compromising performance. This portable oscilloscope is only 1.5 inches thick and weighs less than 4 pounds, yet offers the the full featured functionality of a real-time oscilloscope.

Key Features

- Bandwidth 70 MHz - 500 MHz
- 2 or 4 Analog Channels
- 16 Digital Channels
- Sample Rate 1.25 GS/s - 2.5 GS/s

Learn More

P6316 Logic Probe

As part of the 2-MSO option for the 2 Series, these probes enable students to measure the timing of up to 16 digital signals in embedded systems.

Key Features

- 16 digital input channels
- 5 ns minimum detectable input pulse
- Threshold voltage range for +/-20 V

Learn More

2231A-30-3

This DC power supply is ideal for testing a wide range of devices in the education lab.

Key Features

- 3 isolated outputs
- Total Power 195 W
- Max Voltage 30 V
- Max Current 3 A
- USB Connectivity

Learn More

DMM6500

The DMM6500 offers more measurement capability including transient capture, data visualization, and analysis – at a great price.

Key Features

- 0.0025% DCV accuracy (1 year)
- 1 Msample/s digitizing, 16-bits
- 100 nV, 10 pA, and 1 µΩ sensitivities
- 5-inch touchscreen display

Learn More

AFG31000 Series

Equipped with InstaView™ technology, this is the first high-performance AFG with built-in waveform generation applications, patented real-time wave monitoring, and a modern user interface.

Key Features

- 1 or 2 Analog Outputs
- Sample rate up to 2 GSa/s
- Bandwidth up to 250 MHz
- Vertical Resolution 14-bits

Learn More

Power Electronics and Energy Lab

Equip students with the measurement tools to characterize fundamental power components and measure power converter performance with a 3 Series MDO. The 4 Series MSO adds advanced capabilities, such as measuring wide bandgap (WBG) devices, evaluating 3-phase power, and analyzing motor drives.

3 Series MDO

With the largest display in class, improved low-level signal measurement accuracy and industry-leading probe performance, the 3 Series MDO sets a new standard for bench oscilloscopes.

Key Features

- Bandwidth up to 1 GHz
- Built-in Spectrum Analyzer Up to 3 GHz
- 2 or 4 Analog Channels
- 16 Digital Channels
- Sample Rate Up to 5 GS/s

Learn More

4 Series B MSO

The versatile 4 Series B MSO has the performance to address tough design challenges and a user interface that works the way you expect.

Key Features

- Bandwidth 200 MHz to 1.5 GHz
- 4 or 6 Analog Channels
- Up to 48 Digital Channels
- Sample Rate 6.25 GS/s

Learn More

DMM6500

The DMM6500 offers more measurement capability including transient capture, data visualization, and analysis – at a great price.

Key Features

- 0.0025% DCV accuracy (1 year)
- 1 Msample/s digitizing, 16-bits
- 100 nV, 10 pA, and 1 µΩ sensitivities
- 5-inch touchscreen display

Learn More

2231A-30-3

This DC power supply is ideal for testing a wide range of devices in the education lab.

Key Features

- 3 isolated outputs
- Total Power 195 W
- Max Voltage 30 V
- Max Current 3 A
- USB Connectivity

Learn More

AFG31000 Series

Equipped with InstaView™ technology, this is the first high-performance AFG with built-in waveform generation applications, patented real-time wave monitoring, and a modern user interface.

Key Features

- 1 or 2 Analog Outputs
- Sample rate up to 2 GSa/s
- Bandwidth up to 250 MHz
- Vertical Resolution 14-bits

Learn More

Power Electronics and Energy Lab (cont'd)

Equip students with the measurement tools to characterize fundamental power components and measure power converter performance with a 3 Series MDO. The 4 Series MSO adds advanced capabilities, such as measuring wide bandgap (WBG) devices, evaluating 3-phase power, and analyzing motor drives.

2450 Graphical Series SMU

Source measure units can deliver precisely-controlled voltage and current while performing synchronized measurements.

Key Features

- Max Current Source / Measure Range 1A
- Max Voltage Source / Measure Range 200V
- Measurement Resolution (Current / Voltage) 10 fA / 10 nV
- Max Output Power 20W

Learn More

THDP0200 Differential Voltage Probe

A high voltage differential probe measures the voltage difference between two test points where neither test point is at ground.

Key Features

- 200 MHz bandwidth
- High common-mode rejection
- Floating differential measurements
- Up to 1500 V differential voltage

Learn More

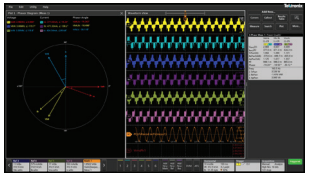
TCP0030A Current Probe

Make accurate measurements from DC to 120 MHz. The probe combines proven Hall-effect technology with the Tektronix TekVPI® oscilloscope interface.

Key Features

- 30 A DC / AC measurement
- 120 MHz bandwidth
- Low insertion impedance
- Supports fundamental current measurements

Learn More



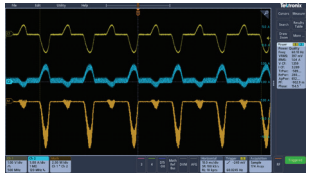
4-Pro-Power Software

On-scope analysis software streamlines important power measurements, allowing students to focus on understanding key parameters.

Key Features

- Efficiency and power loss measurements
- Three-phase power measurements
- Switching and transient measurements for SiC/GaN devices

Learn More



3-PWR Power Analysis Software

Combined with the 3 Series MDO, this software automates important power converter measurements.

Key Features

- Switching loss
- Ripple & noise
- Total/true/apparent power
- Harmonics, power factor, SOA

Learn More

RF and Communications Lab

To understand the fundamentals of wireless communications found in IoT and sensor designs, students need to tools that measure analog, digital and RF signals. Explore different tools for measuring spectrums from sub-GHz up to 6 GHz.

3 Series MDO

With the largest display in class, improved low-level signal measurement accuracy and industry-leading probe performance, the 3 Series MDO sets a new standard for bench oscilloscopes.

Key Features

- Bandwidth up to 1 GHz
- Built-in Spectrum Analyzer Up to 3 GHz
- 2 or 4 Analog Channels
- 16 Digital Channels
- Sample Rate Up to 5 GS/s

Learn More

4 Series B MSO

The versatile 4 Series B MSO has the performance to address tough design challenges and a user interface that works the way you expect.

Key Features

- Bandwidth 200 MHz to 1.5 GHz
- 4 or 6 Analog Channels
- Up to 48 Digital Channels
- Sample Rate 6.25 GS/s

Learn More

RSA306B:

It might be small, but it packs a big punch. It's loaded with features you'd expect from spectrum analyzers twice the size and twice the price. Perfect for everyday tasks.

Key Features

- Frequency Range: 9 kHz to 6.2 GHz
- Real-Time Bandwidth 40 MHz
- Minimum Event Duration for 100% POI 15 µs
- SFDR (typical) 60 dBc
- RF Connectors Type-N

Learn More

2231A-30-3

This DC power supply is ideal for testing a wide range of devices in the education lab.

Key Features

- 3 isolated outputs
- Total Power 195 W
- Max Voltage 30 V
- Max Current 3 A
- USB Connectivity

Learn More

RF and Communications Lab (cont'd)

To understand the fundamentals of wireless communications found in IoT and sensor designs, students need to tools that measure analog, digital and RF signals. Explore different tools for measuring spectrums from sub-GHz up to 6 GHz.

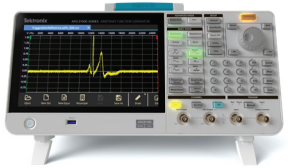
DMM6500

The DMM6500 offers more measurement capability including transient capture, data visualization, and analysis – at a great price.

Key Features

- 0.0025% DCV accuracy (1 year)
- 1 Msample/s digitizing, 16-bits
- 100 nV, 10 pA, and 1 µΩ sensitivities
- 5-inch touchscreen display

Learn More



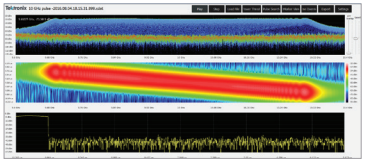
AFG31000 Series

Equipped with InstaView™ technology, this is the first high-performance AFG with built-in waveform generation applications, patented real-time wave monitoring, and a modern user interface.

Key Features

- 1 or 2 Analog Outputs
- Sample rate up to 2 GSa/s
- Bandwidth up to 250 MHz
- Vertical Resolution 14-bits

Learn More



SignalVu -Spectrum Analyzer Software

SignalVu-PC brings advanced RF analysis to Windows PCs or oscilloscopes. It serves as a powerful user interface and analysis tool for the RSA306B, and is available in a free version with fundamental measurements.

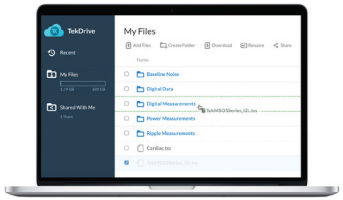
Key Features

- Analyze waveforms without acquisition hardware present.
- Free version includes 17 signal analysis and realtime spectrum analysis measurements.

Learn More

Software for Collaboration and Learning

Software tools that extend the teaching lab beyond the bench—enabling offline analysis, easy data sharing, collaboration between students and instructors, and faster setup across instruments.



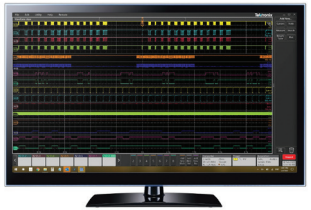
TekDrive

Using TekDrive, a collaborative T&M data workspace, users upload, store, organize, search, download, and share any file type from any connected device.

Key Features

- Analyze and explore standard files such as *.wfm, *.isf, *.tss, and *.csv in your browser.
- Securely share files and folders instantly with other users
- REST API enables integration with any connected device or software application.

Learn More



TekScope PC Analysis Software

TekScope® PC lets you view and analyze waveforms, perform many types of measurements and decode the most common serial buses - all while remotely accessing your oscilloscope.

Key Features

- Supports most waveform files (.wfm, .isf, .csv, .h5, .tr0, .trc, and .bin)
- Decode common serial protocols, including: I2C, SPI, RS-232/422/485/ UART, CAN, CAN-FD, LIN

Learn More

KickStart Software

KickStart simplifies what you need to know about the instrument so that in just minutes you can take the instrument out of the box and get real data on your device.

Key Features

- Save time by automating data collection of millions of readings.
- Set up multi-instrument tests with the ability to independently control up to eight instruments.
- Replicate tests quickly using saved test configurations.

Learn More

Resources

Make sure your students and the world's future engineers have the right tools for today and tomorrow.

Student Labs

Students often struggle to learn new lab equipment, taking away from their learning experience. These student labs are designed with instructions for the 2 Series MSO so students can become familiar with cutting edge scopes before entering the workforce. Students will also be introduced to other test and measurement equipment including 2230 Programmable Power Supplies, DMM6500 and AFG1000.

Electrical Engineering Student Labs | Tektronix

Posters for Your Teaching Lab

Download this poster and learn all about the basics of an oscilloscope and how to set it up to view and measure your signal on the display. It provides a handy reference guide that takes you from setting up to making measurements.

Download Poster

Save with Education Pricing Program ›

We've made it easy for schools and universities to equip their engineering labs with world-class test and measurement equipment at an affordable price.

Qualified schools enjoy a discount off all products.

Contact Information:

Australia 1 800 709 465
Austria* 00800 2255 4835
Balkans, Israel, South Africa and other ISE Countries +41 52 675 3777
Belgium* 00800 2255 4835
Brazil +55 (11) 3530-8901
Canada 1 800 833 9200
Central East Europe / Baltics +41 52 675 3777
Central Europe / Greece +41 52 675 3777
Denmark +45 80 88 1401
Finland +41 52 675 3777
France* 00800 2255 4835
Germany* 00800 2255 4835
Hong Kong 400 820 5835
India 000 800 650 1835
Indonesia 007 803 601 5249
Italy 00800 2255 4835
Japan 81 (3) 6714 3086
Luxembourg +41 52 675 3777
Malaysia 1 800 22 55835
Mexico, Central/South America and Caribbean 52 (55) 88 69 35 25
Middle East, Asia, and North Africa +41 52 675 3777
The Netherlands* 00800 2255 4835
New Zealand 0800 800 238
Norway 800 16098
People's Republic of China 400 820 5835
Philippines 1 800 1601 0077
Poland +41 52 675 3777
Portugal 80 08 12370
Republic of Korea +82 2 565 1455
Russia / CIS +7 (495) 6647564
Singapore 800 6011 473
South Africa +41 52 675 3777
Spain* 00800 2255 4835
Sweden* 00800 2255 4835
Switzerland* 00800 2255 4835
Taiwan 886 (2) 2656 6688
Thailand 1 800 011 931
United Kingdom / Ireland* 00800 2255 4835
USA 1 800 833 9200
Vietnam 12060128

* European toll-free number. If not accessible, call: +41 52 675 3777

Rev. 02.2022

Find more valuable resources at TEK.COM

01/2026 SMD 46W-61690-3