### Overview

The National Instruments USB-5132 50 MS/s and USB-5133 100 MS/s digitizers/oscilloscopes offer two simultaneously sampled channels with 8-bit resolution. These USB digitizers have 10 input ranges from 40 mV to 40 V and programmable DC offset. They also come standard with 4 MB/ch of onboard memory for measurements requiring extended data captures. The small, bus-powered, plug-and-play form factor makes the NI USB-5132 and USB-5133 ideal for portable, benchtop, and OEM applications. The included Scope Soft Front Panel provides an interactive interface with more than 40 built-in measurements.

#### Dual 8-Bit Input Channels

- 100 MS/s real-time sampling on two channels (USB-5133)
- 50 MS/s real-time sampling on two channels (USB-5132)
- 50 MHz input bandwidth with selectable 20 MHz noise filter
- Independent channel-selectable 40 mVpp to 40 Vpp input ranges
- 1 MΩ input impedance
- 4 MB of memory per channel
- Two-year calibration interval and 0 to 45 °C operating temperature

#### Recommended Software

- LabVIEW
- LabVIEW SignalExpress
- LabWindows™/CVI
- Measurement Studio for Visual Studio

#### Driver Software (included)

- NI-SCOPE driver
- LabVIEW Express VIs
- Scope Soft Front Panel

#### Triggering and Clocking

- Edge, window, hysteresis, and digital triggering
- Ability to capture pretrigger and posttrigger acquisition data
- Internal 100/50 MHz clock or external clock from 1 MHz to maximum sample rate

#### Software

- Scope Soft Front Panel for interactive control and a familiar oscilloscope interface
- IVI-compliant NI-SCOPE driver includes more than 50 example programs to highlight full digitizer functionality
- Support for NI LabVIEW, NI LabWindows/CVI, and Microsoft Visual Studio (C++, C#, Visual Basic .NET)
- NI LabVIEW SignalExpress for data acquisition, analysis, and presentation with no programming required

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### Ordering Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Ordering Code</th>
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</thead>
<tbody>
<tr>
<td>NI USB-5132</td>
<td>779969-01</td>
</tr>
<tr>
<td>NI USB-5133</td>
<td>779970-01</td>
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For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S.) or go to [ni.com/digitizers](http://ni.com/digitizers).

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For complete specifications, see the [NI USB-5132/USB-5133 Specifications](http://ni.com/manuals).
Bus-Powered USB Digitizers

Specifications
These specifications are valid for 0 to 45 °C, unless otherwise stated.

Acquisition System
Number of channels............................ 2 simultaneously sampled
Vertical resolution............................... 8 bits
Bandwidth (-3 dB)

<table>
<thead>
<tr>
<th>Range (Vpp)</th>
<th>Minimum Bandwidth</th>
</tr>
</thead>
<tbody>
<tr>
<td>All except 0.04</td>
<td>50 MHz</td>
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<tr>
<td>0.04</td>
<td>35 MHz</td>
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</table>

Bandwidth limit filters
(software-selectable) 20 MHz noise filter
Maximum sampling rate.......................... 50 MS/s (USB-5132)
100 MS/s (USB-5133)
Onboard sample memory.......................... 4 MB per channel (4 million samples)
Input impedance .................................. 1 MΩ || 19 pF

Maximum input overload........................ | peaks | ≤ 30 V
Input coupling ................................... AC, DC, GND
AC coupling cutoff frequency (-3 dB)........ 12 Hz

RMS Noise

<table>
<thead>
<tr>
<th>Range (Vpp)</th>
<th>RMS Noise</th>
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</thead>
<tbody>
<tr>
<td>All except 0.04</td>
<td>0.35% of FS</td>
</tr>
<tr>
<td>0.04</td>
<td>0.55% of FS</td>
</tr>
</tbody>
</table>

Internal
Internal sample clock frequency .......... 50 MS/s (USB-5132) or 100 MS/s (USB-5133) sampling rate with decimation by n, 1 ≤ n ≤ 65,535
Timebase accuracy............................ ±50 ppm

External
External clock sources ....................... PFI 1 (BNC connector)
External clock range........................... 1 to 50 MHz (USB-5132)
1 to 100 MHz (USB-5133)

Trigger System
Modes ......................................... Edge, hysteresis, window, digital, immediate, software
Slope .......................................... CH 0, CH 1, PFI 1, software
Rising or falling ................................

Power Requirements (typical)

<table>
<thead>
<tr>
<th>Specification</th>
<th>Typical Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>+5 VDC</td>
<td>230 mA</td>
</tr>
<tr>
<td>Total Power</td>
<td>1.15 W</td>
</tr>
</tbody>
</table>

Environment
Operating temperature ..................... 0 to 45 °C (meets IEC-60068-2-1 and IEC-60068-2-2)
Storage temperature ....................... -20 to 70 °C (meets IEC-60068-2-1 and IEC-60068-2-2)
Relative humidity ........................... 10 to 90%, noncondensing (meets IEC-60068-2-56)

Calibration
Self-calibration............................... Gain, offset, compensated 1 MΩ attenuator, triggering, and timing for all input ranges
External calibration interval................ 2 years

Certification and Compliances
For access to certifications, marks, and DoCs, visit ni.com/certification.
For detailed specifications, visit ni.com/manuals.
NI Services and Support

Training and Certification
NI training is the fastest, most certain route to productivity with our products. NI training can shorten your learning curve, save development time, and reduce maintenance costs over the application life cycle. We schedule instructor-led courses in cities worldwide, or we can hold a course at your facility. We also offer a professional certification program that identifies individuals who have high levels of skill and knowledge on using NI products. Visit ni.com/training.

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Hardware Services
NI Factory Installation Services
NI Factory Installation Services (FIS) is the fastest and easiest way to use your PXI or PXI/SCXI combination systems right out of the box. Trained NI technicians install the software and hardware and configure the system to your specifications. NI extends the standard warranty by one year on hardware components (controllers, chassis, modules) purchased with FIS. To use FIS, simply configure your system online with ni.com/pxiaadvisor.

Calibration Services
NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit ni.com/calibration.

Repair and Extended Warranty
NI provides complete repair services for our products. Express repair and advance replacement services are also available. We offer extended warranties to help you meet project life-cycle requirements. Visit ni.com/services.

OEM Support
We offer design-in consulting and product integration assistance if you want to use our products for OEM applications. For information about special pricing and services for OEM customers, visit ni.com/oem.