

Vivosonic Calibration System SPECIFICATIONS

Intended Use

The Vivosonic Calibration System is intended to check and calibrate the applicable components of the Integrity™ V500 System to ensure their proper operation in the field. Instructions and user operations are designed for trained technicians.



System Components

1. Calibration Interface

Driving channels:	Up to 2 channels Gain: 0 dB default, can be calibrated
Measuring channels:	Up to 2 channels Gain: 0 dB default, can be calibrated
Sampling rate:	38,400 samples per second
A/D & D/A resolution:	24 bit
Driving signals:	5 Volts (peak to peak) biased by 2.5 Volts Pure tone: 100Hz to 8kHz, steps of 100Hz Click: 80µs, 100µs, 120µs
Measureable signals:	0 to ±2.5 Volts from 100Hz to 8kHz
Built-in sound source:	Custom-designed sound source is used to calibrate microphones of OAE probe. Frequency response within 100Hz to 8 kHz frequency. <ul style="list-style-type: none"> • 100 Hz to 4000 Hz: ≥ 90 dB SPL • 4100 Hz to 8000 Hz: ≥ 70 dB SPL
Built-in LED indicator:	LED indicator for power ON
Connectors:	ER-3A-ABR/ER-3A-800 insert earphone, B-71/B71W bone-conductor, OAE probe, Amplitrode® and VivoAmp™
Dimensions:	Length: 5 inches (12.5 cm) Width: 4.25 inches (10.5 cm) Height: 2.5 inches (6 cm)
Weight:	17.1 ounces (485 g)
Power source:	Powered by a laptop computer via USB to UART cable.

2. Cables

Up to 7 custom cables that connect to the Calibration Interface.

3. Custom Acoustic Coupler for OAE Probe

Custom acoustic coupler (acoustically-equivalent to Brüel & Kjaer DB 2012) for Integrity™ System OAE Probe (P40-GP, P40-UG, P81-GP, and P81-UG).

Includes sample supply of disposable ear tips:

- Grason 9mm ear tip for P40-GP and P81-GP OAE probe
- Otodynamic R9M ear tip for P40-UG and P81-UG OAE probe

4. Software

Easy to use with step-by-step instructions and graphics. Calibration data is saved to a database. Reports may be generated by users.

Additional Required Equipment

The following equipment is required for the Vivosonic Calibration System. These items are *not included with the Vivosonic Calibration System*, but can be purchased separately from third-party manufacturers.

Computer

Operating system:	Microsoft® Windows® 7
Processor:	1 gigahertz (GHz) 64-bit (x64) processor
Memory (RAM):	2 GB RAM
Hard drive storage:	20 GB
Graphics:	DirectX 9 graphics device with WDDM 1.0 or higher driver
USB ports:	USB 2.0 port for hardware USB 2.0 port for Bluetooth dongle or WIDCOMM Bluetooth® enabled

Pressure-field Microphone Pressure-field microphone used to calibrate built-in sound source. Recommend Bruël & Kjaer Type 4192, or similar.

Microphone Preamplifier General purpose microphone preamplifier for Ear Simulator, Artificial Mastoid, and pressure-field microphone. Recommend Bruël & Kjaer Type 2669 with cable and LEMO connector.

Preamplifier Power Supply Used to power precision microphones and preamplifiers. Recommend Larson Davis Model 2221.

- 200V supply voltage and gain to the acoustic test microphones
- AC output through BNC connector

Ear Simulator Ear Simulator is used with preamplifier and the appropriate acoustic coupler to test and calibrate insert earphones and OAE probe. Recommend Bruël & Kjaer, or similar defined in International Standard IEC60318-4.

Acoustic Coupler for ER-3A Insert Earphones Acoustic coupler used with the Ear Simulator to calibrate insert earphones. Recommend Bruël & Kjaer DP 0370. Securing cap DP 0286 for coupler is also required.

Artificial Ear + Artificial Mastoid for Bone Vibrator Artificial Ear and Artificial Mastoid are combined to test and calibrate the bone vibrator.

Artificial Ear: Recommend Larson Davis AEC100 Artificial Ear with Model 2575 precision 1" pressure microphone.
Artificial Mastoid: Recommend Larson Davis AMC493B Artificial Mastoid with temperature and humidity meter.

Artificial Ear (mechanical) for Bone Vibrator Mechanical Artificial Ear used to test bone vibrator. Recommend Bruël & Kjaer Type 4930.

Artificial Ear for EP Headphones Artificial Ear uses to test EP Headphones
Recommend Larson Davis AEC201-A Ear Simulator with 377A13 microphone.

Sound Calibrator Sound Calibrator used as the standard sound source to calibrate the acoustic measuring equipment. Recommend Bruël & Kjaer Type 4231.

Digital Voltmeter RMS voltmeter

Test	Additional required equipment									
	Computer	Digital Voltmeter	Preamplifier Power Supply	Microphone Preamplifier	Sound Calibrator	Ear Simulator	ER-3A Acoustic Coupler	Pressure-field Microphone	Artificial Ear + Artificial Mastoid or Artificial Ear (mechanical)	Artificial Ear for EP Headphones
VivoLink™	X	X								
Amplitrode®, VivoAmp™	X	X								
ER-3A-ABR, ER-3A-800	X	X	X	X	X	X	X			
OAE probe	X	X	X	X	X	X		X		
B-71, B71W	X	X	X	X	X				X	
HDA200, HDA300, H-800	X	X	X	X	X					X

Warranty

One year warranty on new parts manufactured by Vivosonic (excluding mishandling or misuse).