

# integrity™ V500

Auditory Diagnostic System

## Advanced Technology for Easier Diagnostics

Awake ABR, OAEs, Non-Invasive ECoChG, Fully Automated ASSR, 40 Hz ERP



**Superior ABR Detection,  
without Sedation.**



**vivosonic** 

The Benefits of Sound Technology

[www.vivosonic.com](http://www.vivosonic.com)

## Easier diagnostic hearing tests

Integrity™ V500 System has patented and award-winning technology that simplifies both testing and result interpretation. Clinics around the world report the practical benefits of this technologically advanced instrument, compared to conventional testing.

## The Integrity™ Advantage: What's all the noise about?

*No other product on the market has these advanced features:*

### 1. SOAP™ Adaptive Processing

This unique innovation is an evolution of our initial signal processing algorithms that applied Kalman Weighted Averaging. SOAP™ is a combination of patented and proprietary technologies that adaptively reduce the myogenic and electromagnetic noise in auditory brainstem responses. SOAP™ Adaptive Processing works with our VivoLink™ wireless technology and our Amplitrode® to facilitate awake ABR measurement and yield superior response detection under non-ideal conditions.

### 2. Amplitrode®

Our patented Amplitrode pre-filters and amplifies the response at the recording site, which minimizes the effects of surrounding electrical and magnetic interference, along with electrophysiological artifacts, and motion artifacts from electrode leads. It enables testing in harsh environments with no need to adjust gain or be concerned about clipping.

### 3. VivoLink™ Wireless Recording Technology

With no wires connecting the patient to the computer, there is greater freedom of movement while capturing an accurate recording up to a distance of 30 ft (10 m). Babies can be held or strolled, and young children can play quietly while testing is in progress. It also offers immunity to power line interference.



# It's loud and clear – everybody benefits from innovation

## For Patients:

### Minimize sedation, maximize safety

- Infants and young children can be assessed in your clinic without sedation or anesthesia
- No need to sleep-deprive a child for testing in natural sleep
- Eliminates associated risks and reduces caregiver anxiety

### Earlier diagnosis for timely intervention

- Reduces the wait time for an assessment
- Provides for convenient scheduling of newborn hearing screening referrals

### Testing in a relaxed environment

- Infants can be carried, strolled, nursed or pacified
- Toddlers can play quietly
- Adults can be assessed in a comfortable seated or reclined position

### Convenient appointments

- Assessments can take place at a local clinic, at home, or remotely via tele-audiology
- Patients save travel time and costs



## For Clinicians:

### Reduced need for sedation

- Significant reductions up to 92% have been reported
- Assess patients where sedation is contraindicated
- Avoid risks and liabilities associated with sedation

### Reduced rescheduling

- Obtain faster results compared to other systems under similar conditions
- Test can proceed even when a child wakes up
- Reschedule fewer assessments due to patient state
- Accurate threshold estimations of relaxed and active patients

### More reliable results in non-ideal environments

- Less susceptible to electromagnetic interference
- Lower threshold levels in NICU environment than conventional systems
- Advantage in NICU, OR, office, waiting room, and other suboptimal environments

### Portable, wireless convenience

- System is easily transported from one place to another
- VivoLink™ can be placed in an isolette with the data sent wirelessly to the computer
- No need to move high-risk patients for testing

## For Clinics and Practices:

### Reduced costs

- No need for shielded equipment or special environment
- Limits the need for specialized staff to administer sedation

### Higher efficiency under similar conditions

- Obtain faster results compared to other systems under similar conditions
- Assess more patients in a day
- Less time is spent achieving optimal conditions

### Generate revenue

- Maximize patient retention
- Capture referrals for non-sedated ABR, increasing your clientele to include hard-to-test patients
- Non-sedated ABR can attract referrals from newborn hearing screening programs
- Help insurance companies identify true occupational hearing loss
- Multiple billable test modalities



## Special Features

### Unique Innovations Provide Superior Response Detection

- SOAP™ Adaptive Processing with Kalman Weighted Averaging
- Amplitrode® pre-filtering and in-situ amplification
- VivoLink™ wireless recording technology

### Fast and Accurate

- Superior response detection
- Less susceptible to electromagnetic interference
- Less susceptible to myogenic artifacts and patient motion
- A & B buffers for evaluating response repeatability and residual noise
- Every sweep counts -- collect more data in less time

### Ease of Use

- Obtain results under non-ideal conditions
- No need for shielding
- No need to set artifact rejection thresholds
- No need for manual gain adjustment
- Reduced signal saturation and clipping
- Wireless recording simplifies testing in O/R and NICU
- Electrodes leads clip on/off with ease
- Easy patient preparation
- Easy-to-use software

### Flexible Stimuli

- Custom tone burst with adjustable windows
- Rising frequency broadband chirp
- Click response

### Customization

- Add-on modular suite of test modalities
- User-defined protocols and normative data
- Custom report generation

### Affordable and Cost Effective

- Low-cost Integrity ABR "Lite" option
- ABR without sedation reduces assessment costs
- Extended warranties available

### Top Notch Customer Support

- Friendly, helpful and prompt
- Personal on-site and on-line training available
- Remote access troubleshooting
- Multilingual staff



## Clinical Evidence

### Hall & Sauter<sup>1</sup>

- "Availability of the Vivosonic Integrity reduces the need for sedation by up to 66% for children requiring ABR assessment".
- "Availability of the Vivosonic Integrity reduces the wait time for ABR assessment from >2 months to < 3 weeks".
- "ABR recordings with the Vivosonic Integrity provide useful information contributing to management decisions in over 90% of the un-sedated children scheduled for the procedure".
- "The Vivosonic Integrity has also proven useful in the objective assessment of adult patients referred to the audiology service for possible non-organic or retrocochlear auditory dysfunction."

### Brown et al.<sup>2</sup>

- "Vivosonic was preferred for ease of obtaining results in noisy and awake infants" compared to a popular conventional AEP system.
- "In 4/5 cases, Vivosonic showed lower (better) thresholds" in a NICU population.

### Cone et al.<sup>3</sup>

- "Results indicated that "30-45% more subjects had responses present at levels of 40-60 dB ppeSPL during steady state and intermittent noise" when using the Vivosonic Integrity™ compared to conventional ABR technologies".

## Vivosonic is a leader in the development of innovative technologies to enhance auditory evoked response detection

The Vivosonic Integrity™ V500 System is a unique diagnostic device that provides superior, faster response detection and better handling of myogenic artifact while minimizing electromagnetic interference.

The Vivosonic Aurix™ Newborn Hearing Screening System, with automated ABR, works with the same advanced technologies and is especially valuable in screening high-risk babies in the NICU.

The company holds patents on proprietary algorithm techniques and the Amplitrode® technology for evoked potential signal filtering and amplification. An ISO 13485 certified manufacturer, it markets and sells its products through a global distributor network in over 35 countries.

Vivosonic is a leader in the development of technologies to enhance auditory evoked response detection and meet the clinical challenges of hearing healthcare professionals. We are dedicated to continuous improvement of our products and services, and seek new opportunities to develop innovative applications of our proprietary technologies.

1. Hall JW III, Sauter T (2010). Clinical Experience with New Technology For Recording Un-Sedated ABRs. Poster presentation at AudiologyNOW! 2010, San Diego, CA, April 14-17, 2010.

2. Brown DK, Hunter LL, Baroch K, Eads E (2011). Comparison of Auditory Brainstem Response Systems in the NICU Population. Poster presentation at AudiologyNOW! 2011, Chicago, IL, April 6-9, 2011.

3. Cone B, Norrix L, Velenovsky D, Dean, J (2013). Innovations in the Electrophysiologic Evaluation of Infants Part I: Technology. Research Podium at AudiologyNOW!, Anaheim, CA, April 3-6, 2013.

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