

PRODUCT DATA

SoNoScout Binaural Recording and Analysis System — Type 3653-B

SoNoScout Type 3653-B is a compact tool for two-channel sound data acquisition and analysis. SoNoScout is ideal for obtaining and processing binaural data. Highly portable, versatile, and quick and easy to use, SoNoScout enables soundscaping with on-site analysis and editing capabilities.

The entire SoNoScout system is contained in one rugged transport case, and the main components are compact enough that they can be carried in a coat pocket. SoNoScout's high portability enables you to obtain data anywhere – from on-road testing of a competitor's vehicle to field testing in order to quantify customer complaints.



USES AND FEATURES

USES

- Record binaural sound for development applications such as confirming prototype/design performance changes
- Record competitor products and make simple analyses
- Record soundscapes anywhere
- Record, at the dealership, vehicle sounds that are the subject of customer complaints for subsequent identification and fault finding

FEATURES

- Easy to use
- Compact design
- Two sound channels
- 2D and 3D spectral displays
- Overlay user-definable reference spectra on 2D analyses
- Simple metrics (Overall, Band, Articulation Index, etc.)
- Basic filtering
- PC version (analysis only) of the software for greater convenience in post-processing

Description

Fig. 1
Complete SoNoScout
contents
Insert: Main
components held in
one hand



SoNoScout is an ultra-compact, easy-to-use, PDA-based two-channel data acquisition and post-analysis package (Fig. 1). The system is fully contained in a rugged travel case, and the main components are compact enough to fit in a coat pocket.

The system comes with an analogue sound card, which is connected to the headset (headphones and microphones) and stores data to the SD memory card.

Types 3653-B-JP and 3653-B-US

Types 3653-B-JP and -B-US provide the same features and functionality as Type 3653-B but have been tailored to meet the Japanese and United States requirements, respectively. The remainder of this Product Data refers to all three types unless specifically stated.

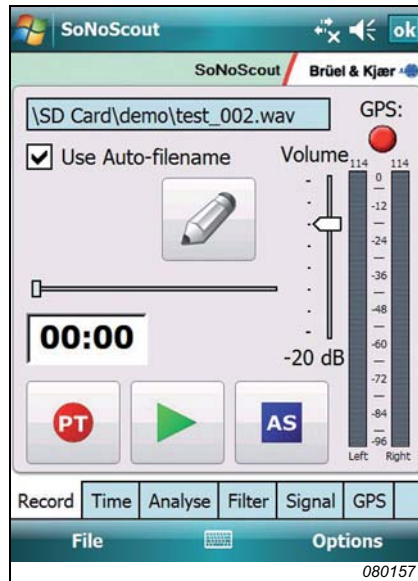
Functionality

SoNoScout provides user-definable capabilities throughout the entire data acquisition process, before, during and after recording.

Before Recording

Before beginning the session, you can calibrate the microphones, define default metadata for recorded sound files and define the file storage folder on the SD card.

Fig. 2
SoNoScout Record tab
display



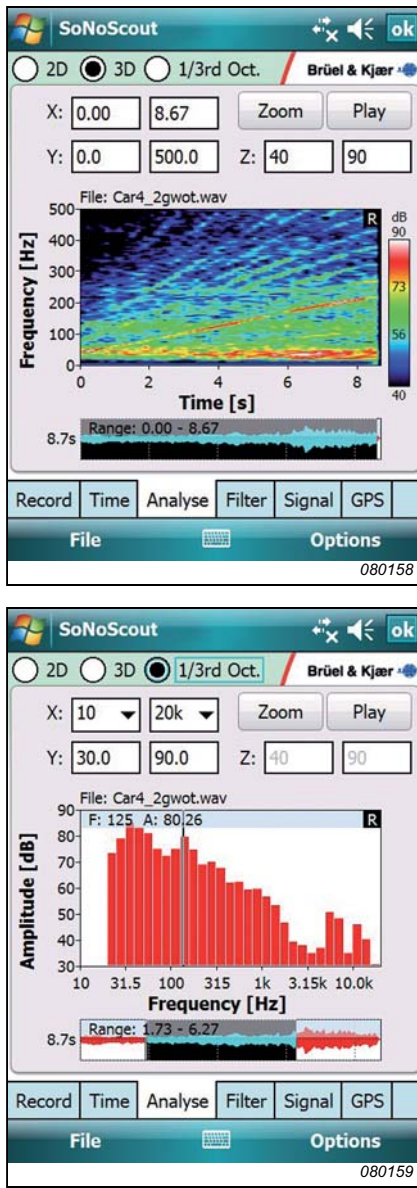
During Recording

During the recording session, SoNoScout provides you with a level meter with overload warning, gain control, and the ability to set event markers and store a time-history file. There are also auto-filename, pre-trigger and auto-stop features. Data can be stored in calibrated wave or .hdf format.

After Recording

SoNoScout offers several post-processing options. You can review the recorded data from any point in the recording, display speed or RPM/time curves, or analyse the data with one or more of the provided tools.

Fig. 3
3D (top) and
1/3-octave (bottom)
displays



Analysis

SoNoScout provides you with a variety of quick and intuitive analysis tools (such as a 2D spectrum and 3D map, autospectrum and power spectral density (PSD), narrow band and 1/3-octave, and Lin and A-weighting).

Modification



SoNoScout also provides a filtering tool that enables you to apply a user-selectable combination of high-pass, low-pass and two-pole parametric equalisation filters at a constant frequency. After the filter has been applied, you can compare the original and filtered analysis results and listen to their sounds back to back.

SoNoScout also enables easy normalisation of wave files or conversion to a user-defined calibration level for optimal export to non-calibrated replay systems.

Analysis on a PC

An analysis-only version of the software, which runs on a PC, is also included in order to allow more convenient data analysis.

Compliance with Standards

 	<p>CE-mark indicates compliance with: EMC Directive and Low Voltage Directive. C-Tick mark indicates compliance with the EMC requirements of Australia and New Zealand.</p>
<p>Safety</p>	<p>EN/IEC 61010–1 and ANSI/UL 61010–1: Safety requirements for electrical equipment for measurement, control and laboratory use.</p>
<p>EMC Emission</p>	<p>EN/IEC 61000–6–4: Generic emission standard for industrial environments. CISPR 22: Radio disturbance characteristics of information technology equipment. Class A Limits. FCC Rules, Part 15: Complies with the limits for a Class A digital device. This ISM device complies with Canadian ICES-001 (interference causing equipment standard). Warning: This is a Class A product. In a domestic environment, this product may cause radio frequency interference that may require the user to take adequate measures.</p>
<p>EMC Immunity</p>	<p>EN/IEC 61000–6–1: Generic standards – Immunity for residential, commercial and light industrial environments. EN/IEC 61000–6–2: Generic standards – Immunity for industrial environments. EN/IEC 61326: Electrical equipment for measurement, control and laboratory use – EMC requirements. Notes: The above is only guaranteed using accessories listed in this Product Data sheet and when the unit is powered by a battery. This unit may be sensitive to electrostatic discharge and radio frequency.</p>

For environmental specifications and compliance with standards for PDA and accessories, see the specifications given by their respective manufacturers.

Specifications – SoNoScout Type 3653-B

Microphones

Cartridge Type: Polarized, gold-plated condenser element with vertical diaphragm

Microphone Size: 12.7 mm (0.5 in.) length, 5.4 mm (0.21 in.) capsule diameter

Frequency Range: 20 Hz – 8 kHz, ± 2 dB re 1 kHz, 3 dB soft boost at 8 – 20 kHz when measured in free field for individual microphones at 0° incidence

Sensitivity: Nominally 20 mV/Pa ± 3 dB at 1 kHz

Equivalent Noise Level, A-weighted: Typically 23 dB(A) re 20 μ Pa

Maximum Sound Pressure Level: 134 dB SPL before damage

Total Harmonic Distortion: <3% at 114 dB SPL (sine)

Preamplifier Output Impedance: 30 – 40 Ω

Cable Drive Capability: Up to 3 m (10 ft.)

Cable Length: 1.40 m (4.6 ft.) from capsule to connector

Weight: <10 g (down to cable clip)

SoNoScout Case (with system components stored inside)

Dimensions

164 × 322 × 450 mm (6.5 × 12.7 × 17.7 in.)

Weight

3.6 kg (7.9 lb.)

PDA and Accessories

See respective manufacturer details for the specific model information included in the package.

Ordering Information

SoNoScout

Type 3653-B SoNoScout Binaural Recording and Analysis System

Type 3653-B-JP SoNoScout Binaural Recording and Analysis System, Japan

Type 3653-B-US SoNoScout Binaural Recording and Analysis System, United States

includes the following software and hardware:

- KE-4323: Transport Case
- HT-0021: Headset
- MM-0343: Binaural Pair of Microphones
- UL-0248: HP iPAQ PDA
- ZG-0464: Travel Adaptor plus Kit Including USB Cable
- UL-0246: Analogue Compact Flash Sound Card
- DS-1134: Foam Insert
- DP-0978: Calibrator Adaptor
- 2 × UL-0245: SD Card (2 GB)
- VP-0648: License Dongle
- BZ-5634: Software USB Stick

OPTIONAL ACCESSORIES

Type 3644-A Desktop NVH Simulator, Jury and Engineering*

Type 3644-B Desktop NVH Simulator, Jury only*

Type 3644-C Desktop NVH Simulator, Engineering only*

Type 4231 Sound Calibrator

AO-0706 Adaptor Cable from Headphone Microphones to CCLD

Service

TRACEABLE CALIBRATION

3653-CTI Initial Traceable Calibration

3653-CTF Traceable Calibration

* For information on included and optional hardware and software for these items, see Product Data BP 2109.

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HEADQUARTERS: Brüel & Kjær Sound & Vibration Measurement A/S · DK-2850 Nærum · Denmark
Telephone: +45 7741 2000 · Fax: +45 4580 1405 · www.bksv.com · info@bksv.com

Local representatives and service organisations worldwide

Brüel & Kjær 

