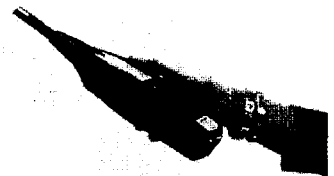


New Generation Hand-held Analyzer Type 2250

What's unique in Type 2250?

- It's **EASY**

- It fits your hand, be it small or large
- Vital measurement tasks – start, pause, save – carried out single-handedly
- Drop-down menus provide direct access to most set-ups
- Even the complex set-ups are not buried deep in menus: expand and collapse in Windows/Outlook folder style
- Use the touch-screen or use the navigation keys, choose what's appropriate for you
- Customise display to your preferences
- Full documentation of measurement, all automatically : set-up, calibration, instrument, transducer, comments (written and spoken), windscreen – it's all just a part of your measurement, don't fiddle with separate files and notes
- Data automatically synchronised between Type 2250 and PC when connected



What's unique in Type 2250?

● It's **SAFE**

- Non-slip surfaces provide a secure grip
- Massive dynamic range:
No range change, no overload, no underrange
- Calibration history, separate for each transducer
- Transducer database: Select transducer and the correct hardware set-up is automatically loaded

● It's **CLEVER**

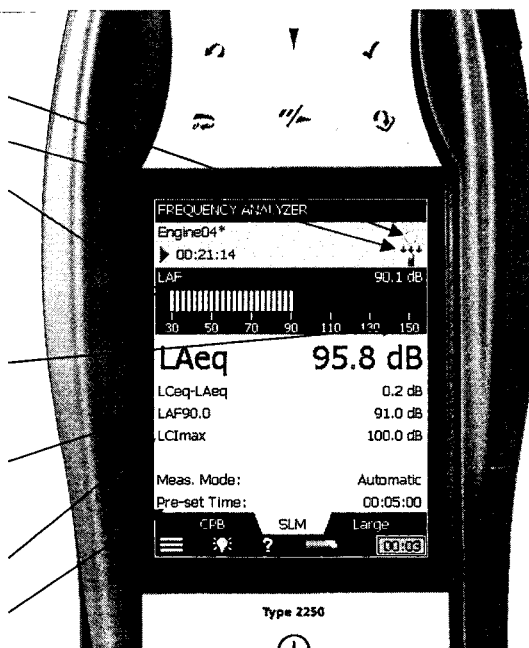
- *Talk to me!* Annotate your measurement with spoken comments
 - » Separate microphone for comments, can be used during measurements without interference (patents pending)
 - » Automatically attached to measurement as documentation
- Annotate your measurement with written comments
 - » Attached to measurement as documentation
- Windscreen automatically detected and the frequency response corrected accordingly

3 www.type2250.com

2250 Sound Level Meter Software – BZ 7222

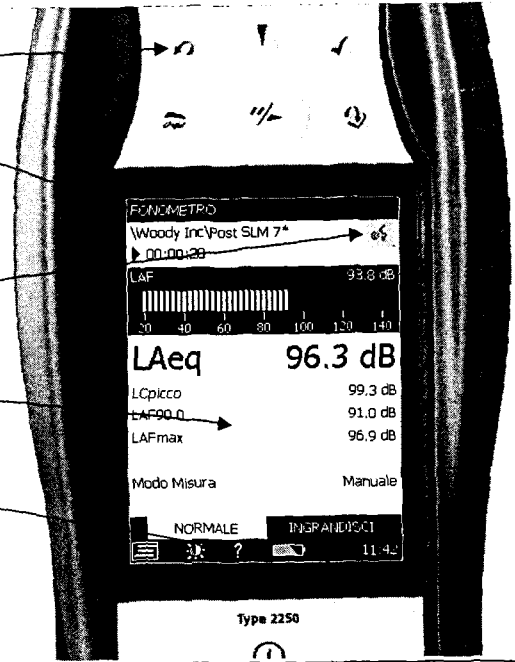
Included with every Type 2250

- Automatic windscreen correction
- Free-field/diffuse-field correction
- 120 dB Dynamic Range
 - no need for range switching
- Sound levels up to 140dB with supplied Microphone Type 4189
 - up to 152dB using Microphone Type 4191)
- Frequency range: 3Hz – 20kHz
- Broadband statistics based on L_{Aeq} or L_{AF}
- IEC/ANSI SLM standards Type/Class 1
- Weightings: A, C, Z and F, S, I
- Pre-set measurement duration



2250 Sound Level Meter Software – BZ 7222

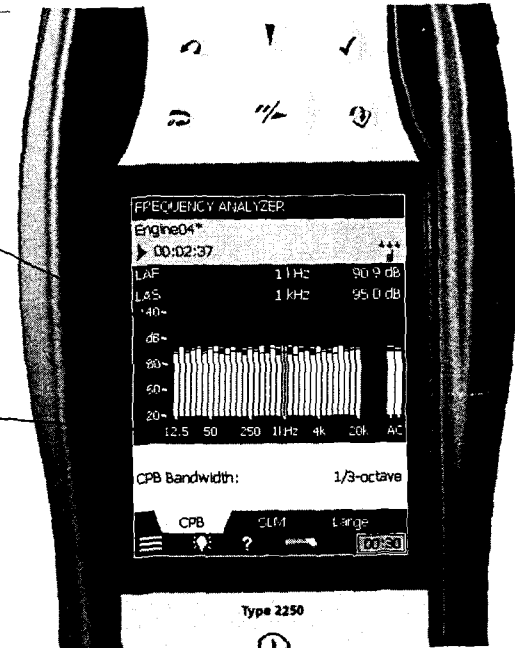
- Back-erase
- Multi-language user interface (English, French, German, Italian, Spanish)
- Voice and text annotation of measurements
- Display colour-schemes optimised for day, night, indoor and outdoor use
- Context-sensitive on-line help



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2250 Frequency Analysis Software - BZ7223

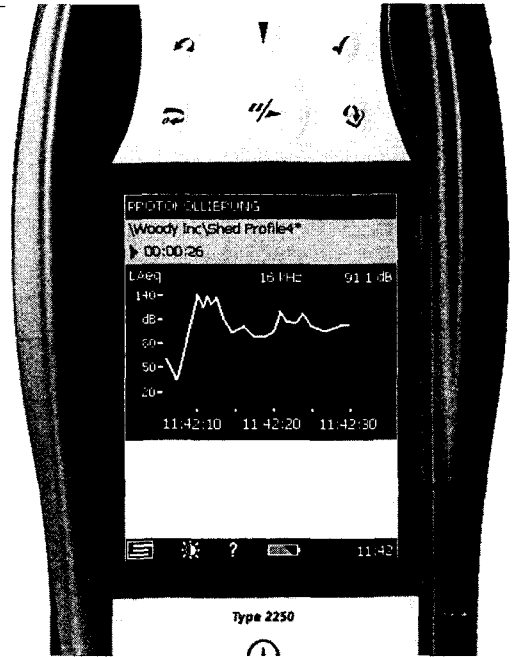
- IEC/ANSI filter standards
- 120 dB Dynamic Range
- 1/1-octave centre freq. 8Hz to 16kHz
- 1/3-octave centre freq. 6.3Hz to 20kHz



6 www.type2250.com

2250 Logging Software - BZ7224

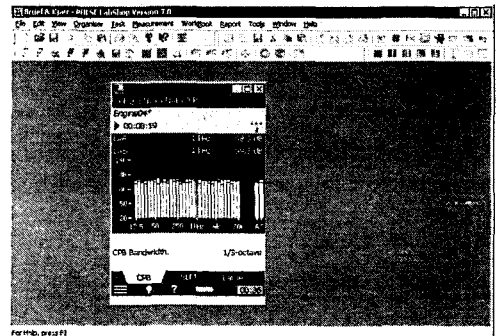
- Logging of broadband parameters
- Logging of statistics
- Logging of spectra (if frequency analysis software is present)
- Logging interval 1s to 24h
- L/Aeq or LAF logged every 100ms
- Profile display
- Markers on profile
- Voice markers
- Local or remote control of start/stop
- Remote control using Compact Flash modem
- Transfer of data while measuring (USB or modem)



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PC Software for Handheld Analyzers - BZ 5203

- Included free on Environmental Software (BZ 5503, delivered on CD - BZ 5298)
- Synchronisation of project data and setups between Type 2250 and PC
- On-line or off-line setup of instrument
- Advanced data management
- Export to Excel spreadsheets
- Remote instrument display via USB connection
- Remote instrument operation via USB connection
- Type 2250 measurement data compatible with PC software Type 7815, Type 7820, Type 7825



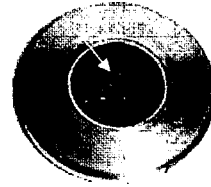
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-1055-

Surface Microphone

Diaphragm

Housing



A new Revolutionary Technology
from Brüel & Kjær

Contents

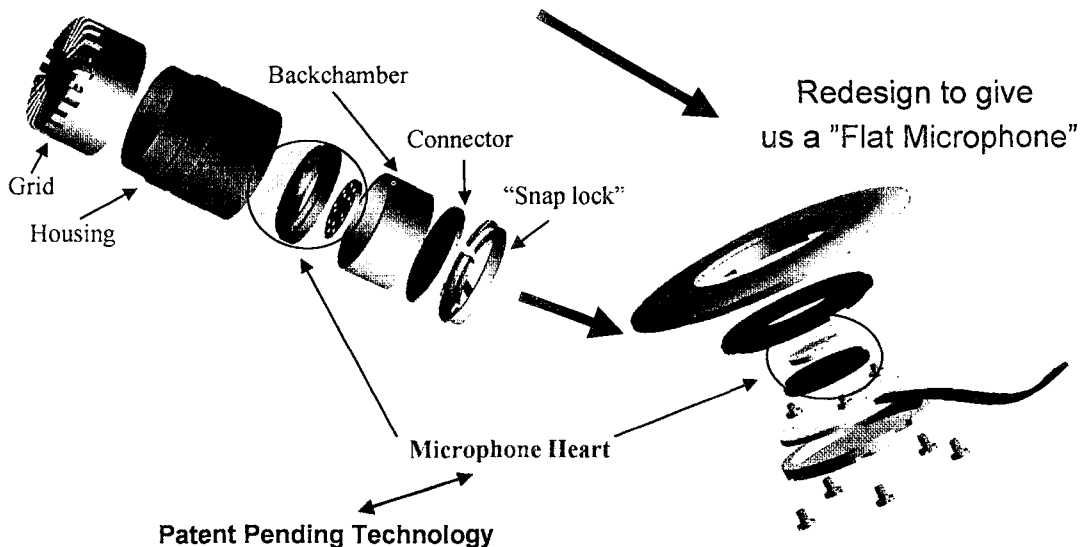
- Historical Background
 - Technical background
 - Technical Specifications
 - » Environmental requirements
 - » Miniaturisation
 - Automotive applications
-

Requirement from Aerospace

- Environmental Requirements
 - » De-icing.....
 - » Operational Temperature range : -55°C - + 100 °C.
 - » Operation at 25000 ft, 0.4 Bar, -55°C, mach 0.8.
 - » High vibration levels
 - » Other requirements as normal measurement microphones
- Miniaturisation
 - » Aerodynamic => Flat (*2.5mm height*).
 - » Miniaturised : ~10 times less volume than traditional ½" + PreAmp solution
 - » Miniaturised cable + connector
- Acoustic Performance
 - » Similar to our existing ½" + PreAmp solution.

Technical Background

Existing Prototype of a "Thick Film Microphone"

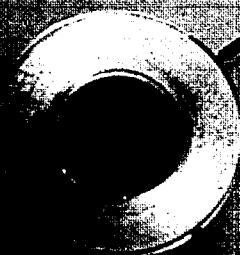


Coming Within Q1 2004

The worlds first microphone dedicated to
surface measurements

B&K's first DeltaTron microphone

New business in a new market



A new platform for microphones

A strong patent application challenges

4948 Tentative Specifications (Aerospace Version)

- ½" diameter 2.5 mm heigh
- Titanium housing
- Pre-polarized
- Pressure response calibrated
- Sensitivity – 57 dB re 1V/Pa +- 2 dB
- Frequency range 5 Hz – 20 kHz +- 2 dB
 - 10 Hz – 10 kHz +- 1 dB
- Temperature Coef. 0.01...0.016 dB/degr. C
- LT stability < 0.1 dB /year @ 25 degr. C
- Capacitance 15 pF
- Inherent noise < 60 dB A, (depends on preampl.)
- Max SPL @ 3 % distortion: Typ. 160 dB



DeltaTron output
CIC and TEDS
2 microdot connectors

Sample Autoversion

Windtunnel Testing Automotive



Surface Microphone

True pressure analysis
over a wide frequency range

Surface microphones
can improve windtunnel test

Conclusion

- The new surface microphone technology will open new application areas in
 - Aerospace flight testing
 - Aerospace wind tunnel testing
- Automotive
 - Wind tunnel testing
 - Full scale measurements
- New production possibilities
 - Possible to realize different microphone types using the same microphone unit (savings in production cost)