Noise Monitoring Terminal — Types 3639-A and 369-B

Noise Monitoring Terminal Types 3639-A and B are optimised for outdoor use. With a small, custom-designed enclosure, the NMTs are designed for use in all climatic environments, as well as industrial, urban and rural conditions. In addition, as the NMTs are based around Type 2250 Hand-held Analyzer that can be removed and used as a stand-alone sound level meter.

The NMTs are intelligent units that are designed to work unattended as part of an environmental noise monitoring system for permanent, mobile or semi-permanent monitoring. Using Environmental Noise Management System Software Type 7843, the NMT can be controlled by a remote PC.

Uses and Features

Uses
Permanent and semi-permanent monitoring for:
- Road noise
- City noise
- Train noise
- Industrial noise
- Noise surveys
- Aircraft Noise

Features
- Designed for stable, long-term, continuous outdoor monitoring
- Logging of broadband and 1/3-octave parameters every 1/2-second
- Streaming of data over LAN to Environmental Noise Management System Software Type 7843
- 8 GB SD card for safe, long-term back-up
- Includes a 2250 Hand-held Analyzer that can be removed and upgraded to work as a stand-alone SLM
- Option to create periodic statistical reports down to 1 minute, including L_N data
- Dynamic range of 110 dB
- Remote verification of the entire measurement chain using the patented Charge Injection Calibration (CIC)
- Sound recording
- Remote operation via LAN or GPRS router
- CDMA, W-LAN and 3G are supported via LAN interface
- Modular hardware/software for easy on-site servicing
- Noise event triggers definable on hourly basis for efficient noise detection
- Complies with IEC 61672 Class 1 specifications
- Two microphone options available
Types 3639-A and 3639-B are self-calibrating NMTs optimised for remote, unattended, environmental noise measurements. They can measure, record, process, store, and transmit noise information as part of a noise monitoring system.

The NMT consists of a weatherproof cabinet containing a noise level analyzer and a battery; a backplate; and an outdoor microphone, all of which can be mounted on a mast, pole, tripod or wall. Additional accessories such as a GPRS router can be added to the NMT.

The NMTs are modular both in hardware and software. A noise monitoring software module is pre-installed on the analyzer and controlled centrally by a remote PC with Environmental Noise Management System Software Type 7843 installed. Additional functionality, such as Event Analysis, Complaints Handling, etc., is installed and managed by the ENM software. Using this control software, the NMT can be configured as needs arise, making the system very cost-effective. The NMT can be delivered in a configuration that supports LAN based communication to the ENM Server (Type 3639-A/B-200) or a configuration that includes a GPRS router for communication via a GPRS network (Type 3639-A/B-203)

Either microphone can be mounted on standard 1” water pipe, allowing stable mounting and secure cabling. A range of tripods and microphone mounting systems (for example, 4 m masts and hydraulic masts) are available from, or can be recommended by, Brüel & Kjær.
Outdoor Microphone Type 4952a (with Type 3639-A)

Outdoor Microphone Type 4952 is suitable for long periods of unattended outdoor use. Its exterior housing is made of a chemical resistant polymer that provides extremely high protection against corrosion. The microphone’s long-term stability guarantees unattended outdoor use for up to a year without any significant change in sensitivity. The windscreen and bird spike can be removed in seconds, enabling easy acoustical calibration of the microphone. Low weight makes this an ideal choice for portable use. Frequency response is precisely controlled, such that, with the appropriate linearization, IEC 61672 Class 1 requirements are fulfilled, with either 0 or 90° reference direction. Outdoor Microphone Type 4952 can be safely placed inside the NMT cabinet during transport.

½" Prepolarized Free-field Microphone Type 4189 with Outdoor Kit UA-1404b (with Type 3639-B)

Type 4189 is a weatherproof microphone and preamplifier assembly that meets IEC 61672 class 1 and ANSI S1.4 Type 2 specifications. Use it in any situation where you must make precise outdoor sound measurements. Outdoor Kit UA-1404 includes a windscreen, which reduces wind noise by approximately 15 dB for wind speeds up to 120 km/h, and is supported by three stainless steel rods that protrude as rubber-capped spikes, preventing birds from perching on the microphone. A rain cover protects the microphone from moisture. All essential components are made of stainless steel to withstand tough environments. Type 3639-B has a lower noise floor than Type 3639-A, which is useful for monitoring quiet areas at night.

The Cabinet

The NMT has been specifically designed to operate unattended in inhospitable environments, protecting the contents from weather, tampering, vandalism, theft, etc. The robust, durable, weatherproof cabinet includes a kit for fastening the cabinet to a wall or pole. The cabinet is well-protected by a weatherproof locking mechanism on the door, and a padlock can be mounted. Protection is also provided for the cabling, to reduce the risk of tampering or accidental damage.

The NMT includes one battery, but up to two batteries can be used so that the NMT can function when there is no usable local power source or mains power has been disrupted. The batteries are charged whenever external AC or DC is applied to the NMT and charging the batteries completely takes up to 12 hours. The optional External Charger ZG-0453 can charge one battery in 10 hours. The cabinet also includes a mains outlet and cable for powering external equipment, like a laptop.

A 10 m microphone cable is included to ensure that the outdoor microphone and the cabinet can both be positioned in the correct acoustical location, while being conveniently and securely mounted. Due to the intelligent design of the NMT, it is easy to add new accessories even after the installation of the NMT on a wall or a pole.

a. For more information, see Product Data BP-2099.
b. For more information, see Product Data BP-1696.
Noise Monitoring and Analysis

Noise monitoring and analysis is performed by the analyzer using Noise Monitoring Software BZ-7322, which is pre-installed. The analyzer measures data coming from the outdoor microphone and logs it onto its SD memory card, including broadband and 1/3-octave $L_{Aeq}$ or SPL, continuously at half-second intervals. BZ-7322 also allows:

- **Hourly reports**: Information each whole hour including Total $L_{eq}$ and statistical distribution
- **Short reports**: Information during a period of time between 1 and 30 minutes, calculating minimum, maximum, $L_{eq}$ and five user-defined $L_N$ values. Short reports can include sound recordings\(^a\)
- **CIC reports**: Results of the Charge Injection Calibration, which can be performed automatically four times a day

With the optional Event Analysis Software BZ-7844 license activated via the ENM software, the NMT can also identify, record and analyse noise events, specifically:

- **Hourly reports**: Information extended to include Total, Background and Noise Event $L_{eq}$, and EPN (Effective Perceived Noise Level) of all events according to the ICAO Annex 16
- **Noise events**: Information on noise events detected based on hourly varying trigger and duration values. For each event, SPL or $L_{eq}$ values and 1/3-octave spectrum information are stored at half-second intervals. Sound recordings\(^a\) of events can also be stored

Data can be streamed over LAN or GPRS, with a maximum deviation of two seconds from the NMT to the ENM Server. Once on the Server, ENM Client software can access and analyse the data.

Setup and Calibration

The analyzer’s display and interface eases initial setup and servicing. You can also remove the analyzer and use it as a stand-alone sound level meter\(^b\) and analyzer by purchasing the relevant application software licenses for the required functions. Type 2250’s Utility Software BZ-5503 is included on a CD for license management and Type 2250 software maintenance.

Initial calibration of the NMT is done using Sound Calibrator Type 4231. In addition, the System has built-in Charge Injection Calibration (CIC), a patented technique used for remotely monitoring the entire measurement setup including the microphone, preamplifier and connecting cable. The NMT can initiate up to four automatic, routine system CIC checks per day at user-specified times, storing results for later download and investigation.

Service and Support

Brüel & Kjær offers a wide range of support and services to ensure efficient and problem-free operation. These include a range of calibration services (accredited, traceable), repairs, conformance tests, warranty extensions, installation, training, a help line and equipment rental. Many of these services can be performed on-site, locally, as well as at the factory. For example, Traceable Calibration is available both as an on-site service and as a more rigorous calibration at the factory in Denmark. Annual and long-term service packs for the NMT and for an entire environmental noise management or noise monitoring system are also available.

---

\(^a\) Sound Recording quality, duration, and level is user-defined. Recording low-quality files reduces the time and bandwidth required to download the files from the NMT, but high-quality files are required for post-processing with Brüel & Kjær’s PULSE system or other applications.

\(^b\) For more information, see Product Data BP-2025
Compliance with Standards


Safety
EN/IEC 61010–1; Safety requirements for electrical equipment for measurement, control and laboratory use.
UL 61010B–1; Standard for Safety – Electrical measuring and test equipment.

EMC Emission
EN/IEC 61000–6–3; Generic emission standard for residential, commercial and light industrial environments.
CISPR 22; Radio disturbance characteristics of information technology equipment. Class B Limits.
FCC Rules, Part 15: Complies with the limits for a Class B digital device.
IEC 61672–1, IEC 61260, IEC 60651 and IEC 60804: Instrumentation standards.

EMC Immunity
EN/IEC 61000–6–2; Generic standards – Immunity for industrial environments.
EN/IEC 61326: Electrical equipment for measurement, control and laboratory use – EMC requirements.
IEC 61672–1, IEC 61260, IEC 60651 and IEC 60804: Instrumentation standards.

Conforms with the following National and International Sound Level Meter Standards:
- IEC 61672–1 (2002-05) Class 1
- IEC 60651 (1979) plus Amendment 1 (1993–02) and Amendment 2 (2000–10), Type 1
- IEC 60804 (2000–10), Type 1
- DIN 45657 (1997–07)
- ANSI S1.4–1983 plus ANSI S1.4 A–1985, Amendment, Type 1
- ANSI S1.43–1997, Type 1

Conforms to the following National and International Frequency Analysis Standards:
- IEC 61260 (1995–07) plus Amendment 1 (2001–09), 1/3-octave Bands Class 0
- ANSI S1.11–1986, 1/3-octave Bands, Order 3, Type 0–C
- ANSI S1.11–2004, 1/3-octave Bands, Class 0

Note: The International IEC Standards are adopted as European standards by CENELEC. When this happens, the letters IEC are replaced with EN and the number is retained. Type 2250 also conform to these EN Standards

Specifications for Noise Monitoring Terminal Type 3639-A

Noise Monitoring Terminal Type 3639-A is supplied with Outdoor Microphone Type 4952. Outdoor Microphone Type 4952 includes Microphone Preamplifier ZC-0034. The Microphone can only be connected to Type 2250 through a microphone extension cable

MICROPHONE
Type: Prepolarized Outdoor Microphone
Nominal Open Circuit Sensitivity: 31.6 mV/Pa, (corresponding to –30 dB re 1 V/Pa) ±2 dB
Capacitance: 12 pF (at 250 Hz)
Reference Direction: Selectable between 0° (Top) and 90° (Side)

MICROPHONE PREAMPLIFIER ZC-0034
Nominal Preamplifier Attenuation: 0.3 dB

Extension Cable between Microphone Preamplifier ZC-0034 and Type 2250-N: Up to 100 m without degradation of the specifications

MEASURING RANGES (BROADBAND)
Dynamic Range: From typical noise floor to max. level for a 1 kHz pure tone signal, A-weighted: 20.4 – 144 dB
Linear Operating Range: In accordance with IEC 61672, A-weighted: 1 kHz: 31.1 – 144 dB
Primary Indicator Range: In accordance with IEC 60651, A-weighted: 29.8 – 126 dB

MEASURING RANGES (1/3 OCTAVE)
Dynamic Range: From typical noise floor to max. level for a pure tone signal at 1 kHz 1/3-octave: 2.9 – 144 dB
Linear Operating Range: In accordance with IEC 61260: ≤ 29.5 – 139.3 dB

SELF-GENERATED NOISE LEVEL
Typical values at 23°C for nominal microphone open-circuit sensitivity:

<table>
<thead>
<tr>
<th>Weighting</th>
<th>Microphone</th>
<th>Electrical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>14.0 dB</td>
<td>18.7 dB</td>
<td>20.0 dB</td>
</tr>
<tr>
<td>B</td>
<td>12.9 dB</td>
<td>17.5 dB</td>
<td>18.8 dB</td>
</tr>
<tr>
<td>C</td>
<td>13.0 dB</td>
<td>18.7 dB</td>
<td>19.7 dB</td>
</tr>
<tr>
<td>Z (5Hz – 20 kHz)</td>
<td>14.4 dB</td>
<td>24.8 dB</td>
<td>25.2 dB</td>
</tr>
</tbody>
</table>

Specifications for Noise Monitoring Terminal Type 3639-B

Noise Monitoring Terminal Type 3639-B is supplied with ½” Prepolarized Free-field Microphone Type 4189, Microphone Preamplifier ZC-0032 and Outdoor Microphone Kit UA-1404.
Microphone Type 4189 and Microphone Preamplifier ZC-0032 can only be connected to Type 2250 through a microphone extension cable when Outdoor Microphone Kit UA-1404 is used.

MICROPHONE
Type: ½” Prepolarized Free-field Microphone
Nominal Open Circuit Sensitivity: 50 mV/Pa, (corresponding to –26 dB re 1 V/Pa) ±1.5 dB
Capacitance: 14 pF (at 250 Hz)
Reference Direction: 0° (Top)

MICROPHONE PREAMPLIFIER ZC-0032
Nominal Preamplifier Attenuation: 0.25 dB

Extension Cable between Microphone Preamplifier ZC-0032 and Type 2250: Up to 100 m without degradation of the specifications

MEASURING RANGES (BROADBAND)
Dynamic Range: From typical noise floor to max. level for a 1 kHz pure tone signal, A-weighted: 16.6 – 140 dB
Linear Operating Range: In accordance with IEC 61672: ≤ 24.8 – 140 dB
Primary Indicator Range: In accordance with IEC 60651, A-weighted: 23.5 – 123 dB
Linearity Range: In accordance with IEC 60804, A-weighted: 21.4 – 140 dB

MEASURING RANGES (1/3 OCTAVE)
Dynamic Range: From typical noise floor to max. level for a pure tone signal at 1 kHz, 1/3-octave: 1.1 – 140 dB
Linear Operating Range: In accordance with IEC 61260: ≤ 20.5 – 140 dB

SELF-GENERATED NOISE LEVEL
Typical values at 23°C for nominal microphone open-circuit sensitivity:

<table>
<thead>
<tr>
<th>Weighting</th>
<th>Microphone</th>
<th>Electrical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>14.6 dB</td>
<td>12.4 dB</td>
<td>16.6 dB</td>
</tr>
<tr>
<td>B</td>
<td>13.4 dB</td>
<td>11.5 dB</td>
<td>15.6 dB</td>
</tr>
<tr>
<td>C</td>
<td>13.5 dB</td>
<td>12.9 dB</td>
<td>16.2 dB</td>
</tr>
<tr>
<td>Z (5 Hz – 20 kHz)</td>
<td>15.3 dB</td>
<td>18.3 dB</td>
<td>20.1 dB</td>
</tr>
</tbody>
</table>

Common Specifications for Types 3639-A and 3639-B

TRANSUCERS
Transducers are described in a transducer database with information on Serial Number, Nominal Sensitivity, Polarization Voltage, Free-field Type, CCLD required, Capacitance and additional information. The analogue hardware is set up automatically in accordance with the selected transducer

CORRECTION FILTERS
For microphone Types 4952, 4189, 4190, 4191 and 4193, Noise Monitoring Software BZ-7232 is able to correct the frequency response to compensate for sound field and accessories

Sound Field: Free-field or Diffuse-field. For Type 4952, only two Free-field reference directions: 0° (Top) and 90° (Side)
Accessories (Type 4189 only): None, Windscreen UA-1650 or Outdoor Microphone Kit UA-1404
Accessories (Types 4191 and 4193 only): None or Windscreen UA-1650

MICROPHONE POLARIZATION VOLTAGE
Selectable between 0 V and 200 V

CALIBRATION
Initial calibration is stored for comparison with later calibrations

Acoustic: Using Sound Calibrator Type 4231 or custom calibrator. The calibration process automatically detects the calibration level when Sound Calibrator Type 4231 is used

Electrical: Uses internally generated electrical signal combined with a typed-in value of microphone sensitivity

Calibration History: Up to 20 of the latest calibrations made are listed. Can only be viewed on the Analyzer

FREQUENCY ANALYSIS
1/3-octave Band Centre Frequencies: 12.5 Hz – 20 kHz

INPUT SOCKET
Connector: Triaxial LEMO
Input Impedance: ≥ 1 MΩ
Direct Input: Max. input voltage: ±14.14 Vpeak
CCLD Input: Max. input voltage: ±7.07 Vpeak
CCLD Current/Voltage: 4 mA/25 V

POWER SUPPLY
The measuring part of Type 3639-A/B is powered from Type 2250's internal Battery Pack. The Battery Pack is charged from either the external AC supply, External DC supply or the NMT Batteries. The NMT Batteries are charged from either the External AC supply or External DC supply.

Typical Operating Times are given at room temperature. At low temperatures it will be reduced

2250 Battery Pack:
• Type: Rechargeable Li-Ion
• Typical Operating Time: 8 hours

NMT Batteries:
• Type: One or two 12 V rechargeable, valve regulated, lead acid
• Typical Operating Time: One battery, 60 hours; two batteries, 120 hours. With GPRS Router installed, 40/80 hours

External DC Power Supply:
• Voltage: 12 – 24 V DC
• Power Consumption: <45 W

External AC Power Supply:
• Voltage: 90 – 132 and 180 – 264 V RMS, Autoranging
• Frequency: 47 – 66 Hz
• Power Consumption: <45 W

CLOCK
Back-up battery powered clock. Drift <0.45 s per 24-hour period

WARM-UP TIME
From Power Off: <2 minutes
From Standby: <10 seconds with prepolarized microphones

TEMPERATURE
IEC60068–2–1 & IEC 60068–2–2: Environmental Testing. Cold and Dry Heat
Operating Temperature: –10 to +50°C (14 to 122°F), <0.1 dB
Storage Temperature: –25 to +70°C (–13 to 158°F)

HUMIDITY
IEC60068–2–78: Damp Heat: 90% RH (non-condensing at 40°C (104°F))
Effect of Humidity: <0.1 dB for 0% <RH <90% (at 40°C (104°F) and 1 kHz)

SOUND POWER EMITTED FROM TYPE 3639-A/B
Sound Power Level: <36 dB (A) Lw

MECHANICAL
Environmental Protection: IP 55 (without external cables), IP 44 (with external cables)
Non-operating:
IEC 60608–2–6: Vibration: 0.3 mm, 20 m/s², 10 – 500Hz
IEC 60608–2–27: Shock: 1000 m/s²
IEC 60608–2–29: Bump: 4000 bumps at 400 m/s²

DIMENSIONS AND WEIGHTS
NMT Cabinet:
• Height: 610 mm (24 in)
• Width: 390 mm (15.4 in)
• Depth: 201 mm (7.9 in)
• Weight: 10 kg (22 lbs) with no NMT battery, 16 kg (36 lbs) with one battery, 22 kg (49 lbs) with two NMT batteries

Mounting Kit: 7.5 kg (16.5 lbs)

SOFTWARE
Environmental Noise Management System Software Type 7843:
Remote control and storage of data from Type 3639-A/B
Utility Software for Hand-held Analyzers BZ-5503: Update of software and licenses for Type 2250. BZ-5503 is supplied on CD-ROM BZ-5298
COMPUTER REQUIREMENTS

Utility Software for Hand-held Analyzers BZ-5503:
- Operating System: Windows® 2000, Windows® XP or Windows® Vista
- Recommended PC: Pentium® III or better, 128 Mbyte RAM, SVGA graphics display/adaptor, sound card, CD-ROM drive, mouse, USB port, Windows® XP

ENM System Software Type 7843: See Product Data BP 2100

### Specifications for Software Controlled via Remote PC

Noise Monitoring Terminal Type 3639-A/B can be remote controlled from a PC running Environmental Noise Management System Software Type 7843. The following specifications are given for this setup:

#### BASIC MEASUREMENTS

- Logging Rate: $\frac{1}{2}$ s
- Broadband Values:
  - X = frequency weightings A, B, C or Z
  - U = time weightings F, S or L
  - $L_{XU(SPL)}$, $L_{Xeq}$
- Frequency Analysis Values: $L_{Zeq}$

#### EVENT DETECTION\(^a\)

- Settings: Individual setting for each hour in a 24-hour period
- Event Start Trigger: $L_{eq}$ or $L_{(SPL)}$ with minimum threshold exceeding duration
- Event Stop Trigger: $L_{eq}$ or $L_{(SPL)}$ with minimum threshold exceeding duration

#### REPORTS

- Short Reports:
  - Period: User-defined 1 to 30 minutes, whole number of reports each hour
  - Data: Start Time; Stop Time; Minimum of $L_{(SPL)}$ over the period; Maximum of $L_{(SPL)}$ over the Period; Total $L_{eq}$ over the Period; 5 $L_N$ Values with user-defined Percentile Levels

- One Hour Reports:
  - Data: Start Time; Stop Time; Level Distribution (Per mile \(\%\) for L (instantaneous) in 110 1 dB classes, plus an Overload Class and a Below Class; One Hour Minimum of $L_{(SPL)}$; One Hour Maximum of $L_{(SPL)}$; One hour total $L_{eq}$; One Hour Minimum of $L_{eq}$; One Hour Maximum of $L_{eq}$; Event Value (Total $L_{eq}$ for all the events during the one-hour period); $L_{eq}$ Background Value (Total $L_{eq}$ for all the periods between events during the one-hour period); Persistent Overload for the one-hour period

- Event Reports:
  - Data Compression: Event data are compressed. The event data samples are $L_{eq}$ values if the trigger is set to $L_{eq}$ and $L_{(SPL)}$ values if the trigger is set to SPL. The maximum number of samples is 101 (always one sample before trigger). If the event period exceeds 100 samples the samples are compressed with a factor 2, 4, 8 ...
  - Data: Start Time; Stop Time; Event Data; T10 Duration (T10 is the time within the event where the level is below 10 dB of the maximum level); $L_{E(T10)}$ calculated over the T10 period; $L_{eq}$ Spectrum (Total $L_{eq}$ spectrum over the event period); EPNL over the event period; Total $L_{eq}$ over the event period; Maximum of $L_{eq}$ over the event period; Time of Maximum of $L_{eq}$; Maximum of $L_{(SPL)}$ over the event period; Time of Maximum of $L_{(SPL)}$

#### SOUND RECORDING

- Triggered By: Events or Short Reports
- Duration: User-defined up to 3 min
- Format: WAV
- Sound Quality | Sampling Rate (kHz) | Memory (kbyte/s)
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>High</td>
<td>48</td>
<td>96</td>
</tr>
</tbody>
</table>

#### CALIBRATION CHECK

The calibration can be checked and reported using CIC (Charge Injection Calibration)
- Interval: Up to 4 times per 24 hour
- Report: Start Time, $L_{eq}$ before check, $L_{eq}$ during check, $L_{eq}$ after check

#### INTERNAL STORAGE

Logged data are stored on an 8 Gbyte Secure Digital Memory Card (SD-card)
- Capacity: Up to 14 days. After this time the oldest data are overwritten

#### INTERFACE

- LAN or GPRS Router

---

### Specifications for Software Controlled via Type 2250 Interface

Noise Monitoring Terminal Type 3639-A/B can act as a stand-alone Sound Level Meter using Type 2250’s user interface. This is possible even when the NMT is remote controlled from a PC. The data logged to the PC and the data displayed on Type 2250’s user interface originates from the same detectors.

#### MEASUREMENTS

- For display only
  - Broadband Values:
    - X = frequency weightings A or B
    - Y = frequency weightings C or Z
  - Start Time | Stop Time | Elapsed Time
  - $L_X$, $L_{XF}$, $L_{XI}$
  - $L_{eq}$, $L_{eq}$
  - Frequency Analysis Values:
    - X = frequency weightings A, B, C or Z
    - Y = time weightings F or S
    - $L_{X(SPL)}$, $L_{XF}$, $L_{XI}$

#### MEASUREMENT DISPLAYS

- Broadband: Measurement data displayed as numbers of various sizes and one quasi-analogue bar.
- Measured data are displayed as dB values, housekeeping data as numbers in relevant format
- Frequency Analysis: One or two spectra superimposed +A/B and C/Z broadband bars
- Y-axis: Range: 5, 10, 20, 40, 60, 80, 100, 120, 140 or 160 dB. Auto-zoom or auto-scale available
- Cursor: Readout of selected band

#### MEASUREMENT CONTROL

- Manual: Manually controlled single measurement
- Manual Controls: Reset, Start, Pause and Continue
- Automatic: Pre-set measurement time from 1 s to 24 hrs in 1 s steps

#### MEASUREMENT STATUS

- On Screen: Information such as overload and running/paused are displayed on screen as icons
- Traffic Lights: Red, yellow and green LEDs show measurement status and instantaneous overload
DATA MANAGEMENT
Project Template: Defines the display and measurement setups

PREFERENCES
Date, Time and Number formats can be specified

LANGUAGE
User Interface in Catalan, Croatian, Czech, Danish, English, Flemish, French, German, Hungarian, Japanese, Italian, Polish, Portuguese, Romanian, Serbian, Slovenian, Spanish and Turkish

HELP
Concise context-sensitive help in Catalan, English, French, German, Italian, Japanese, Polish, Portuguese, Romanian, Slovenian and Spanish

Ordering Information

Type 3639-A-200 Noise Monitoring Terminal for ENMS
Includes the following accessories:
Type 4952 Outdoor Microphone
Type 2250-N Hand-held Analyzer with Noise Monitoring Software BZ-7232 and selected accessories
AO-0645-D-100 Microphone Extension Cable, 10 m (33.3 ft)
AO-1450 LAN Cable, 2 m (6.6 ft)
QB-0065 12 V DC Battery
UA-1685 Wall/Pole Mounting Kit
UL-1016 Ethernet Compact Flash Card
UL-1017 Secure Digital Memory Card
AO-0649 External Aux. DC Cable
AO-1476 USB Cable
BZ-5298 Environmental Software CD (with Utility Software BZ-5503)

Country-specific Mains and Aux. Mains Cables

Type 3639-A-203 Noise Monitoring Terminal for ENMS, including GPRS Router
Includes the same accessories as Type 3639-A-200 plus the following:
ZM-0073 GPRS Router with Antenna
AO-1449-D-005 LAN Cable, 0.5 m (1.6 ft)
DB-4126 Mounting Plate for Antenna
UA-1695 Mounting Kit for Antenna

Type 3639-B-200 Noise Monitoring Terminal for ENMS
Includes the following accessories:
Type 4189 Prepolarized Free-field ½″ Microphone
UA-1404 Outdoor Kit for Type 4189
Type 2250-N Hand-held Analyzer with Noise Monitoring Software BZ-7232 and selected accessories
AO-0441-D-100 Microphone Extension Cable, 10 m (33.3 ft)
AO-1450 LAN Cable, 2 m (6.6 ft)
QB-0065 12 V DC Battery
UA-1685 Wall/Pole Mounting Kit
UL-1016 Ethernet Compact Flash Card
UL-1017 Secure Digital Memory Card
AO-0649 External Aux. DC Cable
AO-1476 USB Cable
BZ-5298 Environmental Software CD (with Utility Software BZ-5503)

Country-specific Mains and Aux. Mains Cables

Type 3639-B-203 Noise Monitoring Terminal for ENMS, including GPRS Router
Includes the same accessories as Type 3639-B-200 plus the following:
ZM-0073 GPRS Router with Antenna
AO-1449-D-005 LAN Cable, 0.5 m (1.6 ft)
DB-4126 Mounting Plate for Antenna
UA-1695 Mounting Kit for Antenna

OPTIONAL ACCESSORIES
Type 4231 Sound Calibrator
BZ-7844 Event Analysis Software
QB-0065 Battery
ZG-0453 Battery Charger for QB-0065
ZM-0073 GPRS Ethernet Router
AO-1449-D-005 LAN Cable, 0.5 m (1.6 ft)
AO-1450 LAN Cable, 2 m (6.6 ft)
UA-1695 Mounting Kit for Antenna
DB-4126 Mounting Plate for Antenna
UA-0587 Tripod (for microphone)
UA-1690 Tripod (for NMT)
DB-4024 Tripod Adapter
UA-2126 NMT Unit for Type 2250 Hand-held Analyzer
BZ-7222-UPG Upgrade Software for 2250 NMT to 2250 SLM

Type 3642 Environmental Noise Management System Software

CALIBRATION
3639-TCF 3639 Conformance Test with Certificate.
3639-CTF 3639 Traceable Calibration performed at factory.
3639-CTO 3639 On Site Traceable Calibration excl. Travel and Accommodation.

PRODUCTS, SERVICES AND ACCESSORIES QUOTED UPON REQUEST
• Masts
• Hydraulic and 4m Tripods
• Installation Support of NMT
• Maintenance Agreement
• Calibration
• Warranty Extension
• Help-line Support

TRADEMARKS
Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and/or other countries · Pentium is a registered trademark of Intel Corporation or its subsidiaries in the United States and/or other countries

Brüel & Kjær reserves the right to change specifications and accessories without notice

HEADQUARTERS: DK-2850 Nærum · Denmark · Telephone: +45 4580 0500
Fax: +45 4580 1405 · www.bksv.com · info@bksv.com
Australia (+61) 2 9889-8888 · Austria (+43) 1 86574-00 · Brazil (+55) 11 8188-8161
Canada (+1) 514 995-8225 · China (+86) 10 880 29906 · Czech Republic (+420) 2 6702 1100
Finland (+358) 19 755 950 · France (+33) 1 6980 7100 · Germany (+49) 21 17 987 0
Hong Kong (+852) 2548 7486 · Hungary (+36) 1 215 83 05 · Ireland (+353) 1 807 4083
Italy (+39) 02 576 8001 · Japan (+81) 3 5715 1612 · Republic of Korea (+82) 2 3473 0605
Netherlands (+31) 38 56 9290 · Norway (+47) 86 77 11 55 · Poland (+48) 22 616 75 55
Portugal (+351) 21 699 04 40 · Singapore (+65) 6377 4512 · Slovak Republic (+421) 2543 0701
Spain (+34) 91 659 08 20 · Sweden (+46) 3 32 25 622 · Switzerland (+41) 3 8807 035
Taiwan (+886) 2 2502 7255 · United Kingdom (+44) 1488 739 000 · USA (+1) 800 332 2040
Local representatives and service organisations worldwide