Multi-Channel
Sound/Vibration Measurement System
Flexible Multi-Channel Configuration Handles Many Measurement Scenarios

- **Sound Level Meter Unit**: UN-14
- **Vibration Level Meter Unit**: UV-15
- **Interface Unit**: UV-22
The Multi-Channel Sound/Vibration Measurement System offers unprecedented flexibility. Freely combine units for applications such as acoustic measurements, wide range vibration level measurements, or simultaneous monitoring of noise and vibration levels.

**Sound Level Meter Unit UN-14**

Accommodates a range of measurement microphones and various preamplifiers including types with TEDS compliant input.

**Vibration Level Meter Unit UV-15**

Provides connectivity for piezoelectric accelerometers, accelerometers with integrated preamplifier, and TEDS compliant accelerometers.

**Multi-Channel Sound/Vibration Measurement System Configuration Examples**

- **UN-14 current consumption per unit**: 140 mA
- **UV-15 current consumption per unit**: 140 mA
- **UV-22 current consumption per unit**: 240 mA

- **UN-14 current consumption per unit**: 140 mA
- **UV-15 current consumption per unit**: 140 mA
- **UV-22 current consumption per unit**: 240 mA

- **UN-14 current consumption per unit**: 140 mA
- **UV-15 current consumption per unit**: 140 mA
- **UV-22 current consumption per unit**: 240 mA

- **UN-14 current consumption per unit**: 140 mA
- **UV-15 current consumption per unit**: 140 mA
- **UV-22 current consumption per unit**: 240 mA

- **UN-14 current consumption per unit**: 140 mA
- **UV-15 current consumption per unit**: 140 mA
- **UV-22 current consumption per unit**: 240 mA

- **UN-14 current consumption per unit**: 140 mA
- **UV-15 current consumption per unit**: 140 mA
- **UV-22 current consumption per unit**: 240 mA

- **UN-14 current consumption per unit**: 140 mA
- **UV-15 current consumption per unit**: 140 mA
- **UV-22 current consumption per unit**: 240 mA

- **UN-14 current consumption per unit**: 140 mA
- **UV-15 current consumption per unit**: 140 mA
- **UV-22 current consumption per unit**: 240 mA

- **UN-14 current consumption per unit**: 140 mA
- **UV-15 current consumption per unit**: 140 mA
- **UV-22 current consumption per unit**: 240 mA

- **UN-14 current consumption per unit**: 140 mA
- **UV-15 current consumption per unit**: 140 mA
- **UV-22 current consumption per unit**: 240 mA

**Sensors**

- Microphone
- Microphone preamplifier (excluding UC-34P)
  - Sensitivity setting range: -10.0 to -59.9 dB (dB re 1 V/Pa)
- Piezoelectric accelerometer
- Accelerometer with integrated preamplifier
- TEDS compliant accelerometer with integrated preamplifier
  - Sensitivity setting range: 0.100 to 99.9 µV/µm/s²
  - 0.100 to 99.9 mV/m/s²
Configure a measurement system for up to 16 channels by linking the Sound Level Meter Unit UN-14 and Vibration Level Meter Unit UV-15. Each unit has its own display showing settings, measurement values, and a bar graph indication. Adding the Interface Unit UV-22 allows connection to a computer for control of settings and operation and transfer of measurement data.

- Backlit LCD and LED warning indicators
- Rack mount capability for shop floor or laboratory installations (JIS compliant rack CF-27 available as option)
- Easy portability of sound level or vibration level units allows use in the field (with optional Battery Pack Unit BP-17)

### UN-14 Specifications

- **Input**
  - Number of measurement channels: 1

- **Connections**
  - [Piezoelectric accelerometer] For measurement microphone or preamplifier (max. input voltage ±10 V) (excl. UC-34P connector)
  - Microphone bias voltage: +30 V, +60 V, +200 V

- **BNC connector**
  - For TEDS compliant microphone (24 V 4 mA)

- **Frequency weighting characteristics**
  - A, C, Z (IEC 1505-1 Class 1 electrical characteristics)

- **Measurement level range**
  - A: 30 to 128 dB (using UC-59, NH-17)
  - Z: 41 to 128 dB (using UC-59, NH-17) (HPF 20 Hz, LPF 20 kHz)

- **Frequency range**
  - 1 Hz to 80 kHz (20 Hz to 40 kHz ±0.5 dB) (1 Hz to 80 kHz ±3 dB)

- **Sensitivity settings**
  - Range: 7 settings (range changes with sensitivity setting)

- **Level range settings**
  - 6 settings (level range changes with sensitivity setting)

- **Time weighting characteristics**
  - A, C, Z (IEC 1505-1 Class 1 electrical characteristics)

- **Display**
  - Segment-type LCD with backlight (constantly on)

- **Alarm indications**
  - Left-side LED: Master/Slave indication (when linked to UV-22). Normally out. Lights up to indicate Master operation

- **Options**
  - Measurement microphone
  - Preamplifier
  - BNC-BNC cable
  - Accessories

### UV-15 Specifications

- **Input/output**
  - **Input**
    - Number of measurement channels: 1
  - **Output**
    - AC output: Sinewave 1 kHz ±2 %, output signal 0.5 V (RMS) ±2 %
    - DC output: ± 2.5 V ±2 %

- **Output**
  - **BNC connector**
    - For TEDS compliant microphone or preamplifier (24 V 4 mA)

- **Frequency weighting characteristics**
  - A, C, Z (IEC 1505-1 Class 1 electrical characteristics)

- **Measurement level range**
  - A: 30 to 128 dB (using UC-59, NH-17)
  - Z: 41 to 128 dB (using UC-59, NH-17) (HPF 20 Hz, LPF 20 kHz)

- **Frequency range**
  - 1 Hz to 80 kHz (20 Hz to 40 kHz ±0.5 dB) (1 Hz to 80 kHz ±3 dB)

- **Sensitivity settings**
  - Range: 7 settings (range changes with sensitivity setting)

- **Level range settings**
  - 6 settings (level range changes with sensitivity setting)

- **Time weighting characteristics**
  - A, C, Z (IEC 1505-1 Class 1 electrical characteristics)

- **Display**
  - Segment-type LCD with backlight (constantly on)

- **Alarm indications**
  - Left-side LED: Master/Slave indication (when linked to UV-22). Normally out. Lights up to indicate Master operation

- **Options**
  - Measurement microphone
  - Preamplifier
  - BNC-BNC cable
  - Accessories

### Links to UN-14 or UV-15

- Up to 3 units can be operated on battery power (AC adapter connection enables operation of up to 16 units)
- IEC R14 (size "C") x 8
- Continuous operation capability: approx. 8 hours (alkaline batteries, CHARGE setting normal operating)
- approx. 4 hours (alkaline batteries, CCLD-setting normal operating)
- 3 units connected, at 25 °C ambient temperature (will differ according to environmental conditions and settings)

**Battery Pack Unit BP-17**

- **Options**
  - One of the following is required for supplying power
  - **AC Adapter NC-99**
  - **AC Adapter**
    - NC-99: 100 to 240 V AC, 12 V DC, 5 A (for max. 16 units)
  - **Battery Pack Unit BP-17**
    - Size: 149 (H) x 480 (W) x 320 (D) mm

- **Power supply**
  - 9 V to 15 V DC
  - Suitable AC adapter: NC-99 (for up to 16 units)

- **Temperature/humidity range**
  - Ambient temperature: -10 to +50 °C, max. 90 % RH (no condensation)

- **Dimensions and weight**
  - 150 (H) x 36 (W) x 179 (D) mm (without protruding parts), approx. 500 g

- **Accessories**
  - Link plate x 1
UV-22 is a dedicated interface unit for use with the UN-14 and UV-15. Both USB and Ethernet interfaces are provided, allowing control of the UN-14 and UV-15 from a computer. The supplied UV-22Viewer software makes it easy to establish settings for the UN-14 and UV-15 and check measurement results. High-pass filter and low-pass filter cutoff frequency (user filter *) settings can also be made. When multiple UN-14/UV-15 units are connected, the Master/Slave function simplifies operation.

* The 2-channel charge amplifier UV-16 cannot be connected.

1 Can be set in 1/3 octave band steps within the specified frequency range.

- The 2-channel charge amplifier UV-16 cannot be connected.

- 1 Can be set in 1/3 octave band steps within the specified frequency range.

UN-14 and UV-15 communication specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input selection, sensitivity, HPF, LPF, compensation</td>
<td>For UN-14 only</td>
</tr>
<tr>
<td>Frequency weighting, level range, time weighting</td>
<td>For UV-15 only</td>
</tr>
<tr>
<td>Measurement mode, range, display characteristics</td>
<td>Measurement values: Instantaneous value or max. value, every 10 ms</td>
</tr>
<tr>
<td>Number of connected units</td>
<td>Up to a combined total of 16 UN-14/UV-15 units</td>
</tr>
<tr>
<td>Computer interfaces</td>
<td>USB USB 1.1 (one UV-22 per computer supported)</td>
</tr>
<tr>
<td>Ethernet</td>
<td>10/100 Base-TX (one UV-22 per computer supported)</td>
</tr>
<tr>
<td>Temperature/humidity range for operation</td>
<td>-20 °C to +50 °C, max. 90 % RH</td>
</tr>
<tr>
<td>Power supply</td>
<td>9 V to 15 V DC, suitable AC adapter NC-99, Battery Pack Unit BP-17, automotive 12 V battery can also be used</td>
</tr>
<tr>
<td>Current consumption</td>
<td>Approx. 240 mA (12 V DC, LAN operation)</td>
</tr>
<tr>
<td>Dimensions and weight</td>
<td>130(W) x 360(H) x 179(D) mm, approx. 500 g</td>
</tr>
<tr>
<td>Supplied accessories</td>
<td>UV-22Viewer software x 1 (CD-ROM), USB cable</td>
</tr>
</tbody>
</table>

Example for multi-channel sound/vibration measurement system

Interface Unit UV-22

- The UV-22 is a dedicated interface unit for use with the UN-14 and UV-15. Both USB and Ethernet interfaces are provided, allowing control of the UN-14 and UV-15 from a computer. The supplied UV-22Viewer software makes it easy to establish settings for the UN-14 and UV-15 and check measurement results. High-pass filter and low-pass filter cutoff frequency (user filter *) settings can also be made. When multiple UN-14/UV-15 units are connected, the Master/Slave function simplifies operation.

* The 2-channel charge amplifier UV-16 cannot be connected.

1 Can be set in 1/3 octave band steps within the specified frequency range.

UN-14 and UV-15 communication specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input selection, sensitivity, HPF, LPF, compensation</td>
<td>For UN-14 only</td>
</tr>
<tr>
<td>Frequency weighting, level range, time weighting</td>
<td>For UV-15 only</td>
</tr>
<tr>
<td>Measurement mode, range, display characteristics</td>
<td>Measurement values: Instantaneous value or max. value, every 10 ms</td>
</tr>
<tr>
<td>Number of connected units</td>
<td>Up to a combined total of 16 UN-14/UV-15 units</td>
</tr>
<tr>
<td>Computer interfaces</td>
<td>USB USB 1.1 (one UV-22 per computer supported)</td>
</tr>
<tr>
<td>Ethernet</td>
<td>10/100 Base-TX (one UV-22 per computer supported)</td>
</tr>
<tr>
<td>Temperature/humidity range for operation</td>
<td>-20 °C to +50 °C, max. 90 % RH</td>
</tr>
<tr>
<td>Power supply</td>
<td>9 V to 15 V DC, suitable AC adapter NC-99, Battery Pack Unit BP-17, automotive 12 V battery can also be used</td>
</tr>
<tr>
<td>Current consumption</td>
<td>Approx. 240 mA (12 V DC, LAN operation)</td>
</tr>
<tr>
<td>Dimensions and weight</td>
<td>130(W) x 360(H) x 179(D) mm, approx. 500 g</td>
</tr>
<tr>
<td>Supplied accessories</td>
<td>UV-22Viewer software x 1 (CD-ROM), USB cable</td>
</tr>
</tbody>
</table>

Example for multi-channel sound/vibration measurement system

- The UV-22 is a dedicated interface unit for use with the UN-14 and UV-15. Both USB and Ethernet interfaces are provided, allowing control of the UN-14 and UV-15 from a computer. The supplied UV-22Viewer software makes it easy to establish settings for the UN-14 and UV-15 and check measurement results. High-pass filter and low-pass filter cutoff frequency (user filter *) settings can also be made. When multiple UN-14/UV-15 units are connected, the Master/Slave function simplifies operation.

* The 2-channel charge amplifier UV-16 cannot be connected.

1 Can be set in 1/3 octave band steps within the specified frequency range.

UN-14 and UV-15 communication specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input selection, sensitivity, HPF, LPF, compensation</td>
<td>For UN-14 only</td>
</tr>
<tr>
<td>Frequency weighting, level range, time weighting</td>
<td>For UV-15 only</td>
</tr>
<tr>
<td>Measurement mode, range, display characteristics</td>
<td>Measurement values: Instantaneous value or max. value, every 10 ms</td>
</tr>
<tr>
<td>Number of connected units</td>
<td>Up to a combined total of 16 UN-14/UV-15 units</td>
</tr>
<tr>
<td>Computer interfaces</td>
<td>USB USB 1.1 (one UV-22 per computer supported)</td>
</tr>
<tr>
<td>Ethernet</td>
<td>10/100 Base-TX (one UV-22 per computer supported)</td>
</tr>
<tr>
<td>Temperature/humidity range for operation</td>
<td>-20 °C to +50 °C, max. 90 % RH</td>
</tr>
<tr>
<td>Power supply</td>
<td>9 V to 15 V DC, suitable AC adapter NC-99, Battery Pack Unit BP-17, automotive 12 V battery can also be used</td>
</tr>
<tr>
<td>Current consumption</td>
<td>Approx. 240 mA (12 V DC, LAN operation)</td>
</tr>
<tr>
<td>Dimensions and weight</td>
<td>130(W) x 360(H) x 179(D) mm, approx. 500 g</td>
</tr>
<tr>
<td>Supplied accessories</td>
<td>UV-22Viewer software x 1 (CD-ROM), USB cable</td>
</tr>
</tbody>
</table>