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

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 pC/(m/s²) or 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
- 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 channels: 16

- **Connectors:**
  - 7-pin connector
  - BNC connector

- **Frequency weighting characteristics:**
  - A, C, Z (JIS CB 1505-1 Class 1 electrical characteristics)

- **Measuring level range:**
  - 30 to 128 dB (using UC-59, NH-17)
  - 2 to 128 dB (using UC-59, NH-17)

- **Frequency range:**
  - 1 Hz to 80 kHz (20 Hz to 20 kHz)

- **Residual noise settings:**
  - -50.0 to -59.9 dB/Pa

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

- **Frequency weighting characteristics:**
  - A, C, Z (JIS CB 1505-1 Class 1 electrical characteristics)

## UN-15 Specifications

- **Input:**
  - Number of channels: 2

- **Connectors:**
  - Monopole connector
  - ACC connector

- **Frequency weighting characteristics:**
  - A, C, Z (JIS CB 1505-1 Class 1 electrical characteristics)

- **Display characteristics:**
  - PM (Peak memory) ±500 dB

- **Range selection:**
  - 7 ranges (range changes with sensitivity setting)

- **Sensitivity (0.100 to 0.999):**
  - ACC: 10, 100, 1000, 10000, 30000, 100000
  - VEL (velocity): 1, 10, 30, 100, 300, 1000, 3000, 10000, 30000
  - DISP: 1, 10, 30, 100, 300, 1000, 3000, 10000, 30000

- **Sensitivity (1.00 to 9.99):**
  - ACC: 1, 10, 30, 100, 300, 1000
  - VEL (velocity): 1, 10, 30, 100, 300, 1000
  - DISP: 0.1, 0.3, 1, 10, 30, 100

- **Sensitivity settings (2.10 to 500):**
  - 500 reading range

- **Units (pC/m²):**
  - Microphone

- **ACC (acceleration) frequency range:**
  - 1 Hz to 15 kHz

- **VEL (velocity) frequency range:**
  - 0.5 Hz to 30 kHz

- **NPS (displacement) frequency range:**
  - 5 Hz to 500 Hz

- **Alarm indication:**
  - LED indicator

- **Options:**
  - Link plate

## Calibration signal output

- **AC output:**
  - Sine wave 1 kHz ±2%, output signal 0.5 V (RMS) ±2%

- **DC output:**
  - 0 V ±2%

- **Output:**
  - BNC connector

- **Output:**
  - Output impedance 600 Ω

- **Output:**
  - Output voltage 1 V (RMS), ±2 % at full-scale point

- **Output:**
  - Max. output voltage ±5 V

- **Output settings:**
  - 10 kHz, 15 kHz, 20 kHz, 50 kHz, 100 kHz, 150 kHz, 200 kHz

- **Residual noise:**
  - Input converted residual noise

- **Power supply (AC adapter):**
  - 9 V to 15 V DC

- **Power supply (Battery):**
  - 9 V to 15 V DC

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

- **Dimensions and weight:**
  - 150 Hz to 360 Hz = 170 (W) (without protruding parts), approx. 500 g

## Options

- **Name:**
  - Measurement microphone
  - Pre-amplifier
  - BNC-BC cable
  - Link plate

## 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
- Battery Pack Unit BP-17

- **Size:**
  - 149 (H) x 480 (W) x 320 (D) mm

- **NS-99:**
  - 100 to 240 V AC, 12 V DC, 5 A (for max. 16 units)
**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.
* Can be set in 1/3 octave band steps within the specified frequency range.

**UV-22Viewer** (supplied)

**UN-14 and UV-15 communication specifications**

- **Settings control and check**
  - Input selection, sensitivity, HPF, LPF, compensation
  - For UN-14 only: Frequency weighting, level range, time weighting
  - For UV-15 only: Measurement mode, range, display characteristics
  - Measurement values: Instantaneous value or max. value, every 100 ms
- **UN-14/UV-15 interface**
  - Number of connected units: Up to a combined total of 16 UN-14/UV-15 units
- **Computer interfaces**
  - USB: USB 1.1 (one UV-22 per computer supported) Connector: Mini B
  - Ethernet: 10/100 Base-TX (one UV-22 per computer supported)
- **Temperature/humidity**
  - -10 ℃ to +50 ℃, max. 90 % RH
- **Power supply**
  - 9 V to 15 V DC. Suitable AC adapter: NC-99, Battery Pack Unit EP-17, automotive 12 V battery can also be used
  - Current consumption: Approx. 240 mA (12 V DC, LAN operation)
- **Dimensions and weight**
  - 150(H) × 36(W) × 179(D) mm, approx. 500 g
- **Supplied accessories**
  - UV-22Viewer software x 1 (CD-ROM), USB cable

**Example for multi-channel sound/vibration measurement system**

[Image of a multi-channel measurement setup]

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Distributed by:

http://www.rion.co.jp/english/

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