RION

Sound Level Measuring Amplifier

NA-42

Wide Range of Applications in High-Precision Sound Level Measurement

(Microphone is optionally available.)

- Wide range of measurement frequencies and levels and support for a variety of microphones (for measuring low through to high sound levels)
- High-resolution display showing sound pressure levels up to 2 decimal places.
- The built-in comparator function makes it suitable for a wide range of applications, including measurement systems and monitoring systems
- Can be controlled using serial communication on up to 16 channels (using the SC-31 multi-channel adapter)

Measurement functions
Sound pressure level L_p
Sound level maximum L_{max}
Peak sound pressure level L_{peak}
Frequency range
1 Hz - 100 kHz (approx −2 dB at 1 Hz, approx −3 dB at 100 kHz)
Frequency weighting A, C, FLAT
Linear operation range and applicable standards
Depending on microphone combination
(Linear operation range applies to A weighting without overload margin)

Designation	Linear Operation range	Frequency range	JIS	IEC60651
UC-53A	28～145 dB	10 Hz～ 20 kHz	C1505	TYPE1
UC-52	28～146 dB	20 Hz～ 8 kHz	C1502	TYPE2
UC-34P	10～112 dB	10 Hz～12.5 kHz	C1505	TYPE1
UC-29	50～164 dB	20 Hz～ 100 kHz	C1505	TYPE1
UC-27	20～145 dB	5 Hz～12.5 kHz	C1505	TYPE1
UC-31	34～155 dB	10 Hz～ 35 kHz	C1505	TYPE1

When wider linear operation range is required, microphone selection can extend upper or lower limit by about 1 - 5 dB *.
* Depends on microphone type.
Inherent noise
Input converted inherent noise
A weighting: 1.5 μV rms or less
C weighting: 1.5 μV rms or less
Flat characteristics: 7 μV rms or less
Flat (HPF 20 Hz, LPF 20 kHz): 2.5 μV rms or less
Linearity range 60 dB
Level range switching

Conditions		Level range (dB)							
Preamplifier gain 0 dB/20 dB	Microphone sensitivity (dB)								
0 dB	−19.99～−10.00	60	70	80	90	100	110	120	130
	−29.99～−20.00	70	80	90	100	110	120	130	140
	−39.99～−30.00	80	90	100	110	120	130	140	150
	−49.99～−40.00	90	100	110	120	130	140	150	160
	−59.99～−50.00	100	110	120	130	140	150	160	170
	−69.99～−60.00	110	120	130	140	150	160	170	180
20 dB*	−19.99～−10.00	40	50	60	70	80	90	100	—
	−29.99～−20.00	50	60	70	80	90	100	110	—

Underlined settings are available only when the preamplifier power supply voltage is set to ±45 V.
* The preamplifier gain setting of 20 dB is available only when the UC-34P (UC-34, NH-34) is connected.
Time weighting FAST, SLOW, IMPULSE
RMS detection By digital processing
Built-in filters
High-pass filter (HPF):3rd-order Butterworth filter, 20 Hz (−3 dB)
Low-pass filter (LPF): 3rd-order Butterworth filter, 20 kHz (−3 dB)
Calibration
Electrical calibration using 1-kHz sine wave signal produced by internal oscillator
Insert CAL function possible with dedicated preamplifier
Microphone sensitivity −69.99 dB to −10.00 dB
Polarizing voltage (microphone bias voltage)
200 V: 200 V ±0.5% 20℃±3℃
200 V ±1% Entire temperature range
60 V: 60 V ±1.5%
30 V: 30 V ±1.5%
Outputs
AC output
BNC connector
Output voltage: 1 Vrms (at full-scale of range)
Output impedance: 600 Ω
Load impedance: 10 kΩ or more
DC output
BNC connector
Output voltage: 6 V (at full-scale of range), 1 V/10 dB
Output impedance: 50 Ω
Load impedance: 10 kΩ or more

External filter input
BNC connector
Output impedance 600 Ω
Input impedance 100 kΩ
Serial communication
For setting control from computer and data output
D-sub 9-pin connector
Multi-channel configuration using Multi-Channel Adapter SC-31M/SC-31S possible (up to 16 channels, maximum distance 400 m)
Comparator function
Sound pressure level evaluating comparator
Comparator output
Open-collector output using M3 screw strip
Maximum applied voltage: 24 V
Maximum drive current: 12.5 mA for applied voltage 24 V
25 mA for applied voltage 12 V
60 mA for applied voltage 5 V
LCD flashing
Comparator settings
Comparator level 0 - 180 dB in 1-dB steps
Delay time 0 - 9 s in 1-second steps
Auto reset On/off selectable
Auto reset time 0 - 90 s in 1-second steps
Display
Backlit LCD
Numeric readout 5 digits, display range 70 dB
second decimal place or first decimal place, switchable
Bar graph Scale range 50 dB or 20 dB, update interval 0.1 s

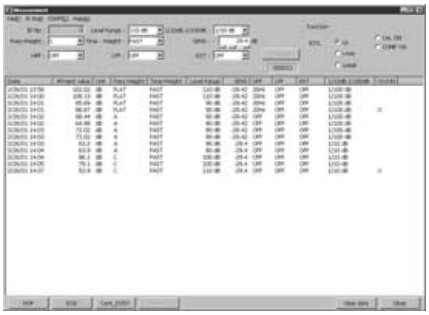
Power requirements
IEC R14 (size "C") batteries × 4 (R14P or LR14)
Battery life LR14: approx. 14 hours
R14P: approx. 6 hours
AC adapter
UP01811065A AC outlet 90 V to 250 V, line frequency 50 to 60 Hz
Current consumption
With EXT DC 6 V
Approx. 220 mA
With AC adapter UP01811065A
AC outlet 100 V: approx. 55 mA
AC outlet 220 V: approx. 45 mA
Ambient conditions for use
−10℃ to 50℃, 10% to 90% relative humidity (no condensation)
Dimensions
171 (H) × 120 (W) × 236 (D) mm
Weight
1.8 kg (without batteries)
Supplied accessories

IEC R14 (size "C") batteries	R14P	4
AC adapter	UP01811065A	1
Storage case	VM-83-031	1

Optional accessories

External input adapter	UA-01
Condenser microphones	
Preamplifiers	
Condenser microphone cable	EC-04 series
Pistonphone	NC-72
Sound calibrator	NC-74
Preamplifier (for vibration measurements)	Vp-26C

Software NA-42PB1 (option)



Specifications subject to change without notice.

RION CO., LTD.
20-41, Higashimotomachi 3-chome, Kokubunji, Tokyo 185-8533, Japan
Telephone: +81-42-359-7888 Fax: +81-42-359-7442
URL: http://www.rion.co.jp/ E-mail: info@rion.co.jp

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