

Technical Specifications: CR:17XX



OPTIMUS+ GREEN

Technical specifications

Applicable standards¹

IEC 61672-1:2013 Class 1 or Class 2*1
IEC 61672-1:2002 Class 1 or Class 2 Group X
IEC 60651:2001 Type 1 or Type 2
IEC 60804:2000 Type 1 or Type 2
IEC 61252:1993 Personal sound exposure meters
ANSI S1.4 -1983 (R2006), ANSI S1.43 - 1997 (R2007)
ANSI S1.25:1991
IEC 61260:1996 & ANSI S1.11-2004
DIN 45657:2005-03

Microphone

Class 1 Instruments MK:224/MK:229 pre-polarized
Class 2 Instruments MK:216 pre-polarized

Microphone preamplifier

MV:200 removable preamplifier (All Versions)

Total measurement range

20dB to 140dB RMS single range
Noise floor: <19dB(A) Class 1, <22dB(A) Class 2

Frequency weightings

RMS & Peak : A, C, & Z measured simultaneously

1:1 octave bands:

31.5Hz to 16kHz

1:3 octave bands:

6.3Hz to 20kHz (bands from 12.5Hz displayed,

6.3Hz, 8Hz & 10Hz stored & downloaded) - B & C variants

Additional metrics:

LAeq LF (20Hz to 200Hz) & Leq LF (20Hz to 200Hz)

Time weightings

Fast, Slow & Impulse measured simultaneously

Display

High resolution display
Ambient light sensor and illuminated keypad

Memory

4GB (32GB factory fit option)

AuditStore

Measurement verification data stored in secure memory

Time history data rates (global settings)

10ms, 62.5ms, 100ms, 125ms, 250ms, 1/2 sec, 1 sec, 2 sec (user selectable)

VoiceTag audio recording

Up to 30 seconds of audio notes with each measurement

Acoustic fingerprint audio recording

Off, manual, threshold triggered, advanced trigger

User options:

Studio quality - 96kHz/32bit WAV format

High quality - 48kHz/24bit WAV format

Standard quality - 16kHz/16bit WAV format

Pre-Trigger & Post-Trigger

Integrators

Three simultaneous "virtual" noise meters. Integrator

1 is preset to Q3 for Leq functions.

Integrators 2 & 3

can be configured with the following:

Exchange rate 3, 4 or 5 dB
Threshold 70dB to 120dB (1 dB steps)

Time weighting None or slow
Criterion level 70dB to 120dB (1 dB steps)

Criterion time 1 to 12 hours in 1 hour steps

Integrator quick settings

EU, OSHA HC & OSHA NC, OSHA HC & ACGIH, MSHA HC & MSHA EC, Custom 1 & Custom 2

Ln statistical values

14 independent statistical Ln values calculated from

1/16th LAF

7 preset to L1.0, L5.0, L10.0, L50.0, L90.0, L95.0 &

L99.0

7 user defined Ln values

CR:172C & CR:171C allow for an additional 14

Ln values with independent time and frequency weighting.

Measurement control

Single or repeat measurement control with user selectable duration of

manual, 1 min, 5 min, 10 min, 15 min, 30 mins, 1 hour, Lden

Automatic synchronisation and repeat

Pause

Back-erase with user selectable

duration

Dimensions

Size 283mm x 65mm x 30mm

Weight 300gms/10oz

Batteries

4 x AA alkaline

Battery life

Typically 12 hours with alkaline AA

Typically 20 hours with lithium AA non-rechargeable

Battery life is dependent upon the battery type and

quality, and screen brightness

Connections

USB Type B to PC

AC & DC output via ZL:174 (2 x Phono, 1m)

Multi-pin IO for external power via

ZL:171 cable (2.1mm socket)

External power: 5v-15v via MultiIO socket via ZL:171 cable (2.1mm socket)

Tripod Mount

1/4" Whitworth socket

Case

Material: high impact ABS-PC with soft touch back and keypad

Environmental

Operating temperature

-10°C to +50°C

Storage temperature

-20°C to +60°C

Humidity Up to 95% RH non-condensing

Electromagnetic performance

IEC 61672

Except where modified by EN 61000-6-1:2007 & EN 61000-6-1:2007

Language options

English, French, German, Spanish & Italian as standard

Software support

NoiseTools download, configuration and analysis software supplied as standard. Compatible with Microsoft Windows 7, 8 & 10.

dBActive mobile application available from Google Play and the App Store.

Bluetooth (with dBActive)

BLE compatible with Android and iOS devices.

All specifications, features and values are typical and are subject to change without notice.



Measurement functions²

CR:1720 & CR:1710

LXY, LXYMax, LXYMin
 LLeq, LCPeak, LZPeak, LAPeak LCeq-LAeq, LXE, LAleq
 Graph of short LAeq, LCPeak
 Measurement run time
 Integrators 2 & 3: TWA, dose %, est dose %
 14 statistical Ln% values

Stored functions

LXYMax and time history of LXYMax
 LAeq, LCeq, LZeq, LCPeak, LZPeak, LAPeak, LAleq
 Time history of LAeq, LCeq, LZeq, LCPeak, LZPeak, LAPeak, LAleq
 Integrators 2 & 3: LAVG, TWA, % dose
 Time history of LAVG
 Ln Values: 14 independent statistical values
 Audio recording during measurement
 Time, date and duration of measurement

CR:172A & CR:171A

LXY, LXYMax, LXYMin
 LLeq, LCPeak, LZPeak, LAPeak LCeq-LAeq, LXE, LAleq
 Graph of short LAeq, LCPeak
 Measurement run time
 Integrators 2 & 3: TWA, dose %, est dose %
 Real-time 1:1 octave bands (graphical and numerical)
 NR & NC values and curves
 14 statistical Ln% values

Stored functions

LXYMax and time history of LXYMax
 LAeq, LCeq, LZeq, LCPeak, LZPeak, LAPeak, LAleq
 Time history of LAeq, LCeq, LZeq, LCPeak, LZPeak, LAPeak, LAleq
 Integrators 2 & 3: LAVG, TWA, % dose

Time history of LAVG

1:1 octave bands: overall Leq & Leq time history for each band, NR & NC values and curves
 Ln values: 14 independent statistical values
 Audio recording during measurement
 Time, date and duration of measurement

CR:172B & CR:171B

LXY, LXYMax, LXYMin
 LLeq, LCPeak, LZPeak, LAPeak LCeq-LAeq, LXE, LAleq
 Graph of short LAeq, LCPeak
 Measurement run time
 Integrators 2 & 3: TWA, dose %, est dose %
 Real-time 1:1 octave bands (graphical and numerical)
 Real-time 1:3 octave bands (graphical and numerical)
 NR & NC values and curves
 Leq LF (20Hz to 200Hz)
 14 statistical Ln% values

Stored functions

LXYMax and time history of LXYMax
 LAeq, LCeq, LZeq, LCPeak, LZPeak, LAPeak, LAleq
 Time history of LAeq, LCeq, LZeq, LCPeak, LZPeak, LAPeak, LAleq
 Integrators 2 & 3: LAVG, TWA, % dose
 Time history of LAVG
 1:1 & 1:3 octave bands: overall Leq & Leq time history for each band
 NR & NC values and curves
 Ln values: 14 independent statistical values
 Audio recording during measurement
 Time, date and duration of measurement

CR:172C & CR:171C

LXY, LXYMax, LXYMin
 LLeq, LCPeak, LZPeak, LAPeak LCeq-LAeq, LXE, LAleq

Graph of short LAeq, LCPeak
 Measurement run time
 Integrators 2 & 3: TWA, dose %, est dose %
 Real-time 1:1 octave bands (graphical and numerical)
 Real-time 1:3 octave bands (graphical and numerical)
 Tonal noise detection in 1:3 octave bands
 NR & NC values and curves
 Leq LF (20Hz to 200Hz)
 Up to 28 statistical Ln% values

Stored functions

LXYMax & time history of LXYMax
 LAeq, LCeq, LZeq, LCPeak, LZPeak, LAPeak, LAleq
 Time history of LAeq, LCeq, LZeq, LCPeak, LZPeak, LAPeak, LAleq
 Integrators 2 & 3: LAVG, TWA, % dose
 Time history of LAVG
 1:1 & 1:3 octave bands: overall Leq & Leq time history for each band
 Tonal noise detection in 1:3 octave bands
 NR & NC values and curves
 Ln values: 28 independent statistical values
 Audio recording during measurement
 Time, date and duration of measurement

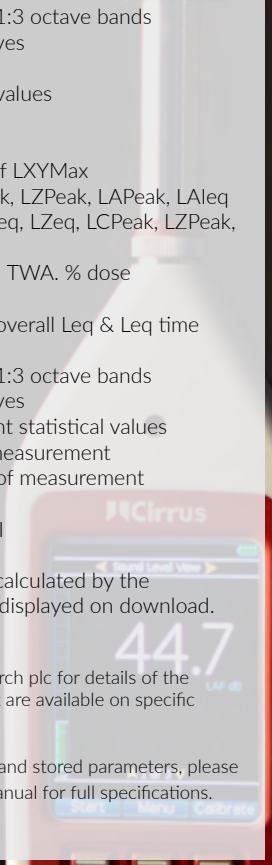
where x=A, C, Z; y= F, S, I

Other functions may be calculated by the NoiseTools software and displayed on download.

Notes

¹Please contact Cirrus Research plc for details of the standards and approvals that are available on specific instrument types.

²For details of the displayed and stored parameters, please refer to the Optimus user manual for full specifications.



	Class 1	Class 2	Sound level functions	Leq/ Peak functions	TWA/ Dose functions	Data logging	Pause & back erase	AuditStore	Acoustic Fingerprint audio recording	VoiceTag note	1:1 octave band filters	1:3 octave band filters	NR & NC curves on-screen	Tonal noise detection	Ln values	Software support	3G/GPRS modem & GPS support	Bluetooth®	Measurement kit
CR:1720		✓	✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	CK:1720
CR:1710	✓		✓	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	CK:1710
CR:172A		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	CK:172A
CR:171A	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	CK:171A
CR:172B		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	CK:172B
CR:171B	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	CK:171B
CR:172C		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	CK:172C
CR:171C	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	CK:171C

Cirrus Research plc
 Acoustic House
 Bridlington Road
 Hunmanby
 North Yorkshire
 YO14 0PH

Email: sales@cirrusresearch.co.uk
 Website: www.cirrusresearch.co.uk
 Telephone: 0845 230 2436
 +44 (0)1723 891 655
 Fax: +44 (0)1723 891 742



²software capabilities are dependent on the functionality of your sound level meter

For our full range visit
cirrusresearch.co.uk

