

# The Castle Pro-DX VOCIS (GA131/231) Sound Level Meters

## Technical Data-sheet

Future-proof technology, flexibility through power and an ability to survive, underpin the development ethos of the Castle Pro-DX Vocis sound level meters.

Castle Group are acknowledged experts in noise and vibration measurement with over 30 years experience. When you buy from Castle you can buy with confidence.

### The technology has finally arrived...

The Pro-DX Vocis range of sound level meters brings to you unrivalled power and usability. With Real-time octave and one third octave measurement, just about all the sound parameters you could possibly need and the ability to have up to one gigabyte of on-board memory, sound measurement technology has finally arrived.

#### A Tough Case for all Weathers...

Not only is the physical design and construction of the Castle Pro-DX casing extremely tough and durable, it is also dust-proof and weatherproof! This means that, Wherever you go and whatever you do, your Vocis can go with you without letting you down!

#### Talking to the Outside World...

Logged data can be transmitted directly to the Castle GA505 Portable Printer providing ready-formatted print-out. The Vocis features a bi-directional RS232 interface for communication with a PC and with the printer interface cable to third party printers.

To gain the most out of your measured data, Castle dBdataPRO software is the way to go. Post measurement analysis, presentation of graphical data and memory management of the Vocis can all be done using this package. dBdataPRO also affords seamless integration with word processing and spreadsheet packages enabling you to use your own standard report formats in programmes you are used to using.

#### Simplicity and Power...

Using the meter could not be simpler. The intuitive Pro-DX operating system tells you where you are and what you need to do next. The massive power of the technology in the instrument is tamed by the user interface such that you are presented with all the information in a concise and unambiguous format. Menu choices are logical and straight-forward and make maximum use of the clearly defined operation keys and the 'mobile phone' style 'soft' function keys.

#### Future-Proof...

the built in software for these meters is designed to suit future upgrading for feature enhancements, legislative changes or instrument upgrades. Details are mailed to customers as soon as they become available. With the Castle Pro-DX meters, you will always be in step with the law and market requirements

With the addition of the Castle weatherproofing system, and the option of adding a DAT recorder, this instrument makes the ideal environmental noise measuring system. The simplicity of use and the system can be used for general environments, construction site monitoring, entertainment noise and

data-logging capabilities mean that this environmental spot checks, Industrial boundary measuring, road noise, neighbourhood noise nuisance, other measurement tasks.



noise



vibration



INVESTOR IN PEOPLE



**Castle**  
advanced sound solutions



# Specification

## PRO-DX VOCIS: MODELS

Vocis I (GA131I) - Type 1, 1/1 Octave  
Vocis I (GA231I) - Type 2, 1/1 Octave  
Vocis E (GA131E) - Type 1, No Filters  
Vocis E (GA231E) - Type 2, No Filters  
Vocis M (GA131M) - Type 1, 1/1 and 1/3 Octave

## APPLICABLE STANDARDS

IEC 61672-1:2002, IEC 60651:1979, IEC 61260:1995, IEC 60804:2000

## MICROPHONE AND PREAMPLIFIER

### For type 1:

Type 1 Pre-Polarised ½" (13.2 mm) Electret Condenser Microphone -27 dB ± 2 dB re 1V/Pa

### For type 2:

Type 2 Pre-Polarised ½" (13.2 mm) Electret Condenser Microphone -32 dB ± 3 dB re 1V/Pa

### For both type 1 and type 2:

## DISPLAY

Electro-Luminescent, Back-lit LCD panel (160x160 pixels)  
Sound Level Meter and analyser display

Numerical: Tabular results on-screen

Bar graph: 1/1 & 1/3 octaves + Time History\*

Real time clock: Day, Month, Year, Hour, Minute, Second

Multi-language display\*: English, French, German, Spanish and Italian.

## LEVEL RANGE

Sound Level Meter (Linear Operating Range: 78 dB)

Display Ranges: (10-dB steps) 19–100, 29–110, 39–120, 49–130 (reference range), 59–140 dB

Analyser mode (display range: 80 dB)

Five ranges in 10-dB steps: 19–100, 29–110, 39–120, 49–130 (reference range), 59–140 dB

## NOISE FLOOR

Typical 'A' Weighting 16 dB(A) rms.

'C' Weighting 19 dB(C) rms.

'Z' Weighting 25 dB(Z) rms.

## FREQUENCY WEIGHTING

'A' and 'C' to IEC 61672-1:2002 and IEC 60651:1979, 'Z' to IEC 61672-1:2002

## FREQUENCY RANGE

12.5 Hz - 20 kHz (including microphone)

1 Hz - 20 kHz (electrical characteristics)

## TIME WEIGHTING

Slow, Fast, Impulse, 10 ms and Peak

## MEASUREMENT AND REAL-TIME FREQUENCY ANALYSIS

Dual display measurement from a single microphone; Display A and Display B

Individual frequency weighting and time weighting settings are possible for A and B displays.

1/1 or 1/3 octave band real-time frequency analysis capability in display A.

## MEASUREMENT PARAMETERS

### All Variations (I, E & M)

Lp (SPL), Leq, Lmax, Pmax (Lpeak), Ltm3, Ltm5, LAE, Lmin

### Variations I & M

DOSE %, projected DOSE %, user definable criterion (75, 80, 85 or 90), user definable exchange rate (3, 4 or 5), Lex (Lep'd),

projected Lep'd, 1/1 Octave values in Lp, Leq, Lmax, Lmin.

Hearing Protection figures in APL. NR (noise rating)

### Variations E & M

7 user-definable Ln values (pre-set to: L1, L5, L10, L50, L90, L95, L99) plus LAF\* for Noise act assessment.

## Variation M only

Reverberation time\* (R60, 30 and 20). Power\* (SWL), FFT analysis\*. 1/3 Octave band values in Lp, Leq, Lmax, Lmin and Ln's

## LOG TIME INTERVALS

1s –10s user definable (not Ln's) and user definable in one second intervals (all parameters) up to 99 hours. To include back-erase function\* on pause command configurable from 1 to 5 seconds. Automatic cumulative Leq every 12 hours\*.

## TRIGGER FUNCTION

Trigger source: internal dB value (rising or falling)\*

## TIMER FUNCTION

A Program Log Timer to give multiple Start-Stop timings (with sleep mode), Repeat timer and programming function\* to control multiple measurement tasks (date independent).

Real Time Clock and Calendar, plus measurement duration.

## MEMORY

2Mb On-board FLASH

2Mb On-board RAM

16Mb Min. Standard Storage Memory (upgradeable to 1Gb)

## SIGNAL OUTPUT

Serial interface RS232 19200 Baud; 8 bit; no parity, bi-directional, 9 pin D-sub

'AC' and 'DC'\* output

External trigger input\*

Wind speed input \*

Temperature input\*

## NOISE BYTE\*

Solid state recording for noise source identification and post analysis. Recording time dependent on memory size (possible recording time >20 hours). Separate memo function within noise-byte feature.

## PROCESSING

A to D Converter: 24-bit Stereo, 60kHz sampling

DSP: 32-bit 61MHz processor sampling at 60kHz

Controller: 100MHz, 486SX running at 16MHz

## POWER REQUIREMENTS

9 volts DC (with mains adapter), Batteries: 6 x MN1500 (size AA), Life: approximately 8 hours (alkaline batteries, continuous operation). Simultaneous mains and battery operation.

## SIZE AND WEIGHT

Dimensions: Height: 255mm (without microphone), 368mm (with microphone) x Width: 100mm (max) x Depth: 49mm

Weight: 780g approximately (including batteries)

## MANUALS

Multi-language manuals\*: English, French, German, Spanish and Italian.

## ACCESSORIES

**GA607** Dual Level Calibrator:

**GA505** Portable, Battery Operated, Thermal Printer

**ZL1083-01** Printer Cable for use with GA505.

**dBdataPRO** Windows Analysis Software.

**GA504** Sony TC-D8 DAT recording kit.

**KA016** Kit Case for Vocis and Accessories

**KA017** Kit Case for Vocis and Printer (GA505)

**KA018** Weatherproof Enclosure

**PSU4** Power Supply

**ZL1092-01** Microphone Extension Cable

**ZL1061-01** AC Output Cable

Note: Items marked \* will be available as upgrades in the near future.

In the interest of continued developments, Castle reserve the right to change the product specifications without notice