

# GA131M Castle Pro-DX VOCIS Sound Level Meter 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...

Being the top of the range, the Vocis M sound level meter 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 half a 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...

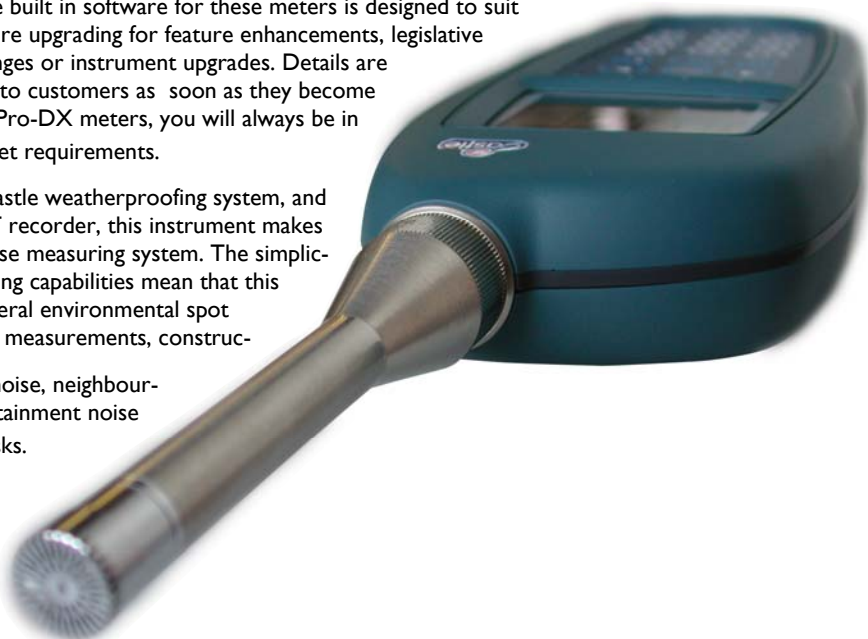
Using the meter could not be simpler. The intuitive Pro-DX operating system tells you where you are and what you need to do next. The massive power of the technology in the instrument is tamed by the user interface such that you are presented with all the information in a concise and unambiguous format. 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. The data-logging system is also a breeze to use as it is based on 'Templates' and 'Files' just like a PC. You can create as many measurement templates as you like, storing all set-up information and then you simply load the one you want, take the measurements and save the results in a file for later access

### 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 data-logging capabilities mean that this system can be used for general environmental spot checks, Industrial boundary measurements, construc-

tion site monitoring, road noise, neighbour-hood noise nuisance, entertainment noise and other measurement tasks.



# Specification

## PRO-DX VOCIS: MODELS

Vocis C (GA131C) - Type 1, 1/1 Octave, Ln's  
Vocis I (GA131I) - Type 1, 1/1 Octave  
Vocis I (GA231I) - Type 2, 1/1 Octave  
Vocis E (GA131E) - Type 1, No Filters, Ln's  
Vocis E (GA231E) - Type 2, No Filters, Ln's  
Vocis M (GA131M) - Type 1, 1/1 and 1/3 Octave, Ln's

## APPLICABLE STANDARDS

IEC 61672-1:2002 (Integrating Sound Level Meters), IEC 1260:1995 (Octave Bands), IEC 60651:2001 (Sound Level Meters), IEC 60804:2000 (Integrating Function)

## MICROPHONE AND PREAMPLIFIER

### Type 1:

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

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

## LEVEL RANGE

Sound Level Meter (Linear Operating Range: 75 dB)  
Display Ranges: (10-dB steps) 15–90, 25–100, 35–110, 45–120, 55–130 (reference range), 65–140 dB  
Analyser Mode (Display Range: 80 dB)  
Display Ranges: (10-dB steps) 10–90, 20–100, 30–110, 40–120, 50–130 (reference range), 60–140 dB

## NOISE FLOOR

Typical 'A' Weighting <18 dB(A) rms  
'C' Weighting <21 dB(C) rms  
'Z' Weighting <27 dB(Z) rms

## FREQUENCY WEIGHTING

'A' and 'C' to IEC 61672-1:2002 and IEC 60651:2001, '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 Channel A and Display Channel B  
Individual frequency weighting and time weighting settings are possible for Channel A and Channel B displays.  
1/1 or 1/3 octave band real-time frequency analysis capability in Channel A display only.

## 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

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.

## 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  
128Mb for File Storage

## SIGNAL OUTPUT

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

## 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