

RADIODETECTION®

# C.A.T4® and Genny4®

Cable Avoidance Tools – detect more, faster, smarter, safer



SPX®

Radiodetection's C.A.T4 and Genny4 range build on over 40 years of Cable Avoidance expertise to drive best practice, reduce the number of utility strikes and improve safety.



An innovative range of tools, engineered to deliver a step change in capabilities with minimal change in work practices or training requirements.

# C.A.T4 and Genny4

## Detect more, detect faster

The C.A.T4 Avoidance Mode™ lets the operator check an intended excavation area for Power, Radio and Genny4 signals, and pinpoint located utilities, in a single scan. The bargraph ‘tidemark’ enables the user to quickly spot and zero-in on a buried conductor.

The Genny4 provides a simultaneous dual-frequency signal output. Alongside the familiar 33 kHz signal for general purpose locates, the Genny4 transmits a specialised Small Diameter Locate frequency which facilitates location of utilities such as telecoms and street lighting, including spurs. For difficult locates, the Signal Boost function enables the Genny4 signals to travel further and deeper, and couple onto utilities more easily.

C.A.T4’s Dynamic Overload Protection feature automatically filters out high levels of interference, allowing operators to continue working even in electrically noisy areas such as substations and under high-voltage cables – and requires no input from the operator.

## Dig more safely

As a safety critical tool, C.A.T4 and Genny4 offer a number of features designed to support safe working and help to drive utility strike rates down.

StrikeAlert™ warns the operator of shallow buried utilities, while the SWING™ warning alerts of incorrect usage patterns, encouraging corrective action.

eC.A.T4® and gC.A.T4™ models feature on-board data acquisition, logging key locate parameters every second to aid in identifying training needs.

The gC.A.T4 range incorporates an internal GPS/GNSS receiver which adds positional data to log records showing not only how the operator was working, but also where the C.A.T was being used.

All C.A.T4 units are equipped with Radiodetection’s proprietary eCert® technology, which provides a comprehensive assessment of the unit’s hardware and software using an internet connection to Radiodetection, and can be used to extend the validity of the C.A.T4’s calibration certificate on-demand<sup>1</sup>.

<sup>1</sup> Further purchase may be required.

## Straightforward operation and introduction

C.A.T4 and Genny4 retain the familiar C.A.T operating interface first introduced by Radiodetection in the mid-1980s and have been designed to offer full reverse-compatibility. For example, all Genny<sup>3</sup> accessories are compatible with Genny4.

Radiodetection offers comprehensive training options for operators, managers and trainers to promote best working practises and supports management of those responsible for Cable Avoidance. Contact your local office or representative for more details.

## Data Acquisition /Logging

On-board memory allows over a year’s worth of data<sup>2</sup> to be stored on eC.A.T4 and gC.A.T4 series products. This data can be backed-up to a PC at any time, giving virtually unlimited record keeping for the life of the product. Retrieved data can be analyzed, either locally using C.A.T Manager® for Windows PC or remotely using C.A.T Manager Online, to aid in ensuring compliance and identifying training requirements.

### Factors logged include:

- Mode of use
- Genny / Power/Radio signal strengths
- Date and time of survey
- StrikeAlert / SWING warning statuses
- Speed over ground<sup>3</sup>
- Location of survey (Latitude/Longitude)<sup>3</sup>
- Bargraph readout
- Sensitivity control setting
- Depth measurements made
- Battery status
- Last / next calibration date
- Dynamic Overload Protection/signal overload status
- Angle of use
- Number of Satellites Received<sup>3</sup>
- Audio status

<sup>2</sup> Based on 8 hours use per day, 5 days per week

<sup>3</sup> gC.A.T4 models.

## C.A.T4 Cable Avoidance Tool range

Advanced digital design with the classic Radiodetection C.A.T look and feel.



Trigger switch – intuitively control power on/off

Depth button

Detachable loudspeaker for use in noisy environments

Mode selector switch

Sensitivity control

Fully integrated data logging memory, GPS/GNSS receiver and Bluetooth®  
Low Energy options

Light-weight high impact ABS casing provides protection to IP54 for all-weather operation

## Genny4 signal generator

Locate more, and smaller, utilities with dual power and simultaneous dual frequency design.

On/off switch

Loudspeaker

Battery compartment (4 x D-Cell)

Signal Boost button

Accessory connection socket

Accessory storage tray

Battery (2 x D-Cell) and USB data connection compartment

Replaceable wear boot



### Accessory storage tray

Conveniently store Genny4 accessories, including the supplied magnet, earth stake and direct connection leads.

### High contrast display with auto-backlight

Bargraph 'tidemark' enables operators to quickly spot and zero-in on a buried conductor.

### High speed USB 2.0 data connection

Connect to a PC to configure C.A.T settings, run an eCert, and to rapidly transfer usage data from eC.A.T4 and gC.A.T4 series locators.

## eCert – remote calibration validation

eCert remote calibration testing offers an innovative calibration option intended to form part of an annual service regime. Activated through the C.A.T Manager PC software, eCert provides a fast, thorough and convenient test of the key locating circuitry within C.A.T4, and validates the results against the original factory calibration using an internet connection to Radiodetection. Following an eCert test pass, a Radiodetection Calibration Certificate for that C.A.T4 can be printed or saved.

For a complete maintenance package, Radiodetection also offers exhaustive factory-backed service and recalibration options including full mechanical integrity inspection and function testing.

## Small cable locating

Simultaneous dual frequency and simple, intuitive, locating methods assist C.A.T4 and Genny4 users to locate Small Diameter cables such as telecom twisted pairs, CATV feeds, spurs and drop-offs which have historically been hard to find and a common strike risk.



## Service due indicator and CALSafe™

Annual service and calibration is key to ensuring that C.A.T operators can work safely and with confidence in their equipment. To support this, eC.A.T4 and gC.A.T4 models provide a 31-day Service Due countdown warning on start-up.



CALSafe – enabled units can be set to automatically deactivate on expiry of the defined calibration interval, to help ensure compliance with individual company policies.

The interval required between services can be customized using the C.A.T Manager software to anything up to one year.

## SWING warning

Radiodetection C.A.Ts are designed to respond exceptionally fast to even the smallest detectable underground signals. Radiodetection's research into underground signal detection has shown that the ability of an operator to identify these buried utilities is directly affected by careless working practices such as excessive or rapid swinging.

To further reduce utility strike risks, eC.A.T4 and gC.A.T4 models are equipped with sensors to detect such incorrect usage and warn the operator with an alert that is also stored in the data log.

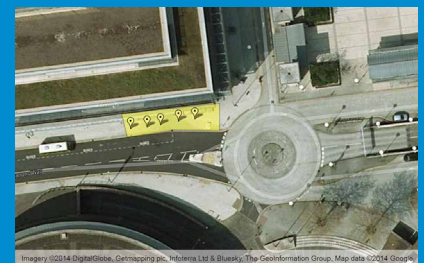


## Dynamic Overload Protection

High levels of electrical interference, as found around substations and near high-voltage transmission cables, can overload sensitive electronics. Dynamic Overload Protection automatically filters this interference out, enabling C.A.T4 to continue locating where other units struggle.

## Internal GPS/GNSS

Automatically log the position of the C.A.T alongside key locate parameters each second to prove work history and analyse working practices.



## Smart GPS integration

The gC.A.T4 GPS implementation is designed to enable fast GPS fixes even if the C.A.T is used for only a few seconds at a time – and no operator interaction is needed.

## Avoidance Mode

Avoidance Mode speeds the process of pre-dig scanning by searching for Power, Radio and Genny signals simultaneously. C.A.T4 Avoidance Mode offers fully controllable responses, allowing operators to rapidly pinpoint a buried utility and trace it across an area. Real Sound audio enables operators to differentiate between individual signals and utilities to maximise locate speed whilst maintaining safety.

## C.A.T Manager

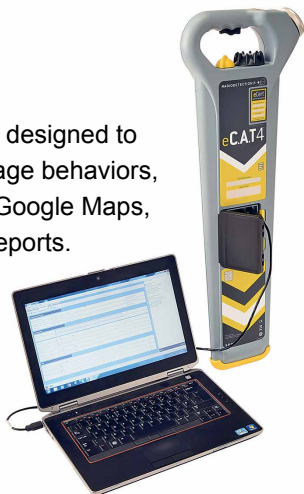
C.A.T Manager is a software suite designed to offer online or local analysis of usage behaviors, explore surveyed locations using Google Maps, and produce surveys and usage reports. Data can be exported and shared as KML or CSV files<sup>4</sup>.

The Windows® PC version offer the ability to keep fleets up-to-date with the latest firmware and in calibration.

Near-real time monitoring of gC.A.T4 and Genny4 fleets is possible using the Android or Apple app and the cloud based C.A.T manager Online.

C.A.T Manager Online will be available later in 2016.

<sup>4</sup> eC.A.T4 and gC.A.T4 models only. gC.A.T4 models are required for GPS operation and real-time monitoring.



## Real Sound

The audio signals emitted by the C.A.T4 are derived from the signals detected. Radio, Power and both Genny signals can be easily distinguished from each other and from background noise, helping identification of target utilities and aiding differentiation of closely co-located utilities.

## Genny4 signal boost

Alongside its familiar standard power mode, Genny4 provides a Signal Boost feature which increases the output signal by up to a factor of 10, enabling operators to locate utilities deeper and over greater distances.

## Operating modes

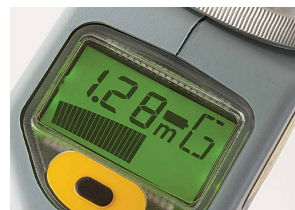
### Avoidance Mode

Simultaneously search for and pinpoint Genny, Power and Radio signals for rapid surveying.



### Genny mode

Detects the signals transmitted by Genny4, with on-demand estimation of the depth<sup>5</sup> of buried utilities.



### Power mode

Detects the electromagnetic fields generated by loaded power cables.



### Radio mode

Detects long-range radio signals as they travel along buried cables and pipes.



<sup>5</sup> C.A.T4+, eC.A.T4+ and gC.A.T4+ only

### StrikeAlert Warning

Warns of shallow buried utilities.



### SWING Warning

Ground-breaking feature warns operators of incorrect usage to promote best working practices<sup>6</sup>.



<sup>6</sup> eC.A.T4 and gC.A.T4 models only

## Optional Accessories

Genny4 accessories are designed to transmit locate signals along most infrastructure types, including non-conductive targets such as plastic ducts and ceramic pipes, including:

- Signal clamps
- Mouse
- Live plug/cable connectors
- FlexiTrace™
- High strength Neodymium magnet<sup>7</sup>

Genny4 accessories are reverse compatible with Genny3. For more information on the wide range of accessories available, contact your local Radiodetection office, or visit [www.radiodetection.com](http://www.radiodetection.com)



<sup>7</sup>Supplied as standard with a Genny4

## C.A.T4 range options

|                                 |  | C.A.T4 | C.A.T4+ | eC.A.T4 | eC.A.T4+ | gC.A.T4 | gC.A.T4+ |
|---------------------------------|--|--------|---------|---------|----------|---------|----------|
| Avoidance Mode (R)              |  | ●      | ●       | ●       | ●        | ●       | ●        |
| Genny signal locate (G)         |  | ●      | ●       | ●       | ●        | ●       | ●        |
| Power signal locate (P)         |  | ●      | ●       | ●       | ●        | ●       | ●        |
| Radio signal locate (R)         |  | ●      | ●       | ●       | ●        | ●       | ●        |
| Small Diameter Locate frequency |  | ●      | ●       | ●       | ●        | ●       | ●        |
| eCert                           |  | ●      | ●       | ●       | ●        | ●       | ●        |
| Dynamic Overload Protection     |  | ●      | ●       | ●       | ●        | ●       | ●        |
| Depth                           |  |        | ●       |         | ●        |         | ●        |
| StrikeAlert                     |  | ○      | ○       | ○       | ○        | ●       | ●        |
| Data acquisition                |  |        |         | ●       | ●        | ●       | ●        |
| Service due indicator           |  |        |         | ●       | ●        | ●       | ●        |
| SWING warning                   |  |        |         | ●       | ●        | ●       | ●        |
| CALSafe                         |  |        |         | ○       | ○        | ●       | ●        |
| Bluetooth® Low Energy           |  |        |         |         |          | ●       | ●        |
| GPS/GNSS                        |  |        |         |         |          | ●       | ●        |

● Standard ○ Option

## Data Acquisition

Log and save key eC.A.T4 and gC.A.T4 usage parameters, recorded at 1-second intervals.



## eCert

On-demand, thorough test over the internet of the C.A.T4 locating circuitry, backed with a Radiodetection Certificate of Calibration.



## Global locations

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Radiodetection is a leading global developer and supplier of test equipment used by utility companies to help install, protect and maintain their infrastructure networks.



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