

Certified Locator Candidate Manual

March 2025



CERTLOC[®]

CERTIFICATIONS



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1. GENERAL INFORMATION

1.1. About CERTLOC

CERTLOC Global, is a not-for-profit Certified Locator Institute pioneering world-leading solutions and certifications. Our approach is to prioritise safety, doubling down on efficacy and rising to combat injury, property damage and expensive miscalculations.

We are committed to ensuring every CERTLOC Certified Locator provides peace-of-mind when working around underground assets.

1.2. About the Certified Locator Program

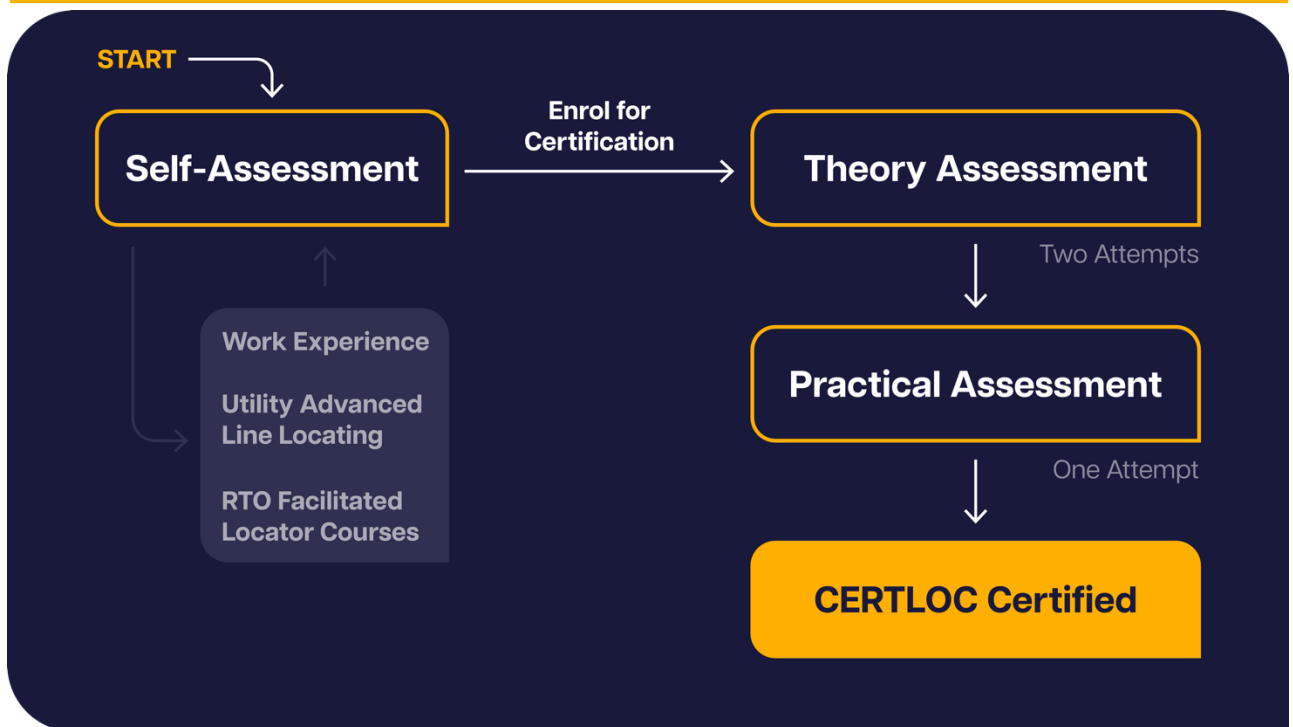
CERTLOC Certifications provides superior assessment expertise and resources for locators and the organisations they work for.

We empower locators to assess their competence prior to enrolling in our industry-leading certification process, which consists of theory and practical components. We require locators to have appropriate equipment prior to undertaking the practical assessment.

Certification will be granted only once our high standards have been met. These standards exist to ensure worker safety and safer worksites and communities.

Sometimes less knowledgeable locators aren't able to meet those high standards. We work closely with them so they can undertake a reassessment with the goal of achieving certification.

2. THE CERTIFICATION PROCESS



Step One

A Candidate must undertake the self-assessment at <http://www.certloc.com/self-assessment/>. The Self-Assessment is used by the Candidate to identify if they are likely to be deemed adequately skilled to pass the actual Certified Locator Program. The Self-Assessment is free. The Candidate agrees to the [Terms and Conditions](#).

Step Two

A Candidate must enrol in the Certified Locator Program. This involves the payment of a non-refundable assessment fee (refer cancellation and refund policy for details). For group enrolments or invoice payments Candidates should contact the CERTLOC Administration Team.

Nb – The assessment fee is currently \$1,295.00 + GST, though it is subject to change upon four weeks' notice on the CERTLOC website, www.certloc.com.au additional charges may apply for practical assessments conducted outside capital cities.

Step Three

This theory assessment is comprised of 70 multiple choice questions. These questions are in the following sections:

- > 15 questions on Plan and Prepare for locating
- > 35 questions on Locating Techniques
- > 20 questions on Telecommunications

A Candidate is provided with two (2) attempts to obtain at least 96% on the theory component.

If the Candidate does not achieve at least 96% on the theory component, within the two (2) attempts, they are required to re-sit the theory assessment upon payment of the re-sit fee (currently \$150 +GST).

Step Four

If the Candidate obtains at least a score of 96% on the theory component, within the two (2) attempts, the Candidate will be contacted to organise a time for the practical assessment to be conducted by an Assessor.

Step Five

The Candidate is assessed by an Assessor on the Candidate's ability to correctly identify underground assets/utilities, including pipe and cable networks; and the procedures performed/conducted by the Candidate in doing same.

If the Candidate does not achieve 100% on the practical component, the Candidate may choose to book a re-assessment (re-assessment fee currently \$695 +GST).

Step Six

If the Candidate obtains a score of 100% on the practical assessment, a Statement of Certification will be sent to the successful Candidate.

3. THE PRACTICAL ASSESSMENT – ON THE DAY

The practical field assessment will be conducted at a location chosen by the assessor. You will receive the specific location details a few days before the assessment.

You must do a BYDA enquiry for the location and it must be done by you and in your name.

Be sure to check that you have all plans, and all required information is legible on the plans.

The plans must be on a minimum 10-inch tablet and/or printed in colour. Some plans are formatted to be printed in A3.

Make sure to arrive with all equipment as per required [Equipment List](#).

Typically, there are three assessment sessions each day, scheduled for 8 am, 11 am, and 2 pm. Three hours are allocated for each assessment.

There is time at the beginning for an inspection of all required equipment, a safety briefing, an explanation of the locating scenario and the marking method required.

You will also receive a Telstra Plan Reading Task to work through. You will have 15 minutes to complete this task.

You will then have two hours to perform the actual locating. You are not required to complete the site in the two hours. However, the assessor needs to see sufficient locating done to evaluate your competency. At a minimum, you should have used Direct Connect and Induction Clamp on at least two, and possibly three or more, asset types, depending on the site.

During this two-hour period the assessor will be entering observations into their mobile device. They will also take notes of your actions step by step and may ask occasional questions or inspect your connection points to assess connection methods and frequencies.

For most of the time, they will observe from a distance, which might include sitting in a vehicle or another location to provide you with space to perform your job.

At the end there will be time for a debriefing. The assessor will communicate the assessment outcome and feedback then proceed to complete the necessary paperwork, which will be entered into the Tutis App. You will be asked to sign off on the assessment process.

Importantly remember:

- > Feeling nervous is normal, and we understand this.
- > If you have difficulty answering some of the questions, there are alternative ways for the assessor to gather the required information.
- > Approach the assessment as if it were a typical day-to-day job.
- > We are not assessing your OH&S practices. If we have concerns, we will discuss them with you.
- > Assessors are not available to answer questions or assist you beyond what's covered in the safety briefing.

- > You don't need to explain every action you take. If the assessor is uncertain about something, they will ask for clarification.
- > Most importantly we want you to go away having passed the assessment or learnt something.

The equipment used for the assessment.

- > Use the equipment that you use day to day.
- > Have spare batteries.
- > Be sure it is in good working condition.

The most common failure of you EMF locator is either the Direct Connect leads or the Induction Clamp. They are easy to test.

How to test Direct Connect leads or the Induction Clamp

Direct Connect leads.

- > Plug them into the transmitter.
- > Do not connect the Black lead to the Red lead.
- > Turn the transmitter on.
- > Depending on the manufacturer and model it will display Current and Voltage or that you have a signal.
- > You will have zero current and maximum voltage or that there is no signal.
- > Connect the Black lead to the Red lead.
- > If your transmitter displays zero milli amps or no signal the leads are fault.

OR

- > If the transmitter displays milliamps at low voltage or that there is a signal the leads are working.

Induction Clamp

- > Plug the clamp into the transmitter.
- > Turn the transmitter on at either 4 kHz or 8 kHz and at high signal output.
- > You will hear a ringing noise.
- > When you open the clamp the ringing noise will stop.
- > If there is no noise the clamp is faulty.
- > It may just be the contact where the clamp contacts both top and, or bottom, is dirty and not having a clean electrical contact.
- > If they are clean and contacting and there is no ringing noise the clamp is faulty.

Note: The lower the frequency and higher the signal output on the transmitter the louder the ringing noise will be.

4. THE PRACTICAL ASSESSMENT – CANDIDATE ACKNOWLEDGEMENT

Candidates to acknowledge the following at the start of the assessment:

You are attempting an assessment to prove competency to complete the Certified Locator Program.

- > You are attempting an assessment to prove competency to obtain CERTLOC Certification.
- > You will be asked to use peak and null separately on your receiver although you may use other modes as long as you can determine signal trace quality with the various modes.
- > We ask that you please turn on the volume on your receiver.
- > Your methods, experience and knowledge are a major contributor to the outcome.
- > You have completed the theory component and should be able to answer any theoretical questions asked today.
- > You will be given an area or scenario to EMF locate and will have approximately 2 hours of the 3 hours for this portion of the assessment. Some utilities may be excluded.
- > This assessment can be extended or aborted at any time at the assessor's discretion if a result can or cannot be achieved within the appropriate time.
- > You may leave the designated area but are asked to only mark utilities within the designated area.
- > You should be supplied with flags, markers or crayons and are not permitted to use paint at any stage.
- > The site is considered your site and signs may be placed, providing they comply with local guidelines and a Traffic Management Plan is not required.
- > The assessor will largely observe you from a distance leaving you to carry out the location.
- > The assessor will be making notes and entering information into the App on their phone.
- > The assessor may at any time follow, watch or ask questions on your procedure, check locator settings or techniques as he/she feels required.
- > The assessor may also leave you to complete the task, then ask questions upon completion.
- > You must present all the required equipment as per the list to achieve a "pass".
- > I have read the entire Candidate Manual.

5. THE PRACTICAL ASSESSMENT – TOPICS

The following topics are covered in the Certified Locator Assessment:

- > Carry out risk assessment
- > BYDA enquiry system
- > Ability to read all plans
- > Scope of work and area orientation
- > Use of all locating equipment
- > Conductive locating methods
- > Inductive locating methods
- > Passive signals
- > Understanding of how signal is created
- > Identify signal distortion and how to reduce it
- > Identify Weak or Poor signal and how to improve it
- > Reasons for multiple signals
- > Use of current, how it works and its effect
- > Verifying accuracy and target
- > Locating non-conductive assets i.e. Fibre Optic, PVC etc.
- > Using sondes and traceable rods
- > Methodical approach to locating task
- > Blind search process
- > Housekeeping
- > Reporting at completion of locating task

6. LIST OF REQUIRED EQUIPMENT

To undertake the practical assessment, please present with the following equipment:

1. Complete BYDA Plans for the assessment location ordered in the candidate's name (complete A3 sized colour print outs, or loaded onto an at least 10-inch tablet)
2. Photo ID and construction white card
3. EMF locating instrument must be serviced, maintained, and calibrated as required by the manufacturer with the following minimum requirements:
 - > Multiple frequencies (Minimum of 1 Low, 1 Medium & 1 High Frequency)
 - > At least one sonde frequency
 - > Three active modes, Direct Connect, Inductive Clamp and Spill Induction
 - > Two passive modes, Radio and Power
 - > Separate Peak and Null Modes
 - > Be able to read Current Measurement
 - > Manual Gain control
4. Multiple Frequency Transponder Locator
5. 4 Gas detector with sniffer hose
 - > Combustibles (LEL)
 - > Oxygen (O)
 - > Carbon Monoxide (CO)
 - > Hydrogen Sulphide (H₂S)
6. Traceable duct rodding equipment and a sonde suitable for rodding a communication duct and at a frequency to suit the EMF Locator
7. Induction Clamp Extension Handle (recommended 2m length and non-conductive handle)
8. Pair of Telstra Manhole guards
9. Telstra Manhole keys
10. Minimum of 4 X 450 mm witches hats
11. Telstra pit seal breaker tool
12. Applicable safety management signs
13. Site record document, Asset location report or similar
14. Safety documentation (Take 5, JSA, SWMS)
15. First aid kit
16. Hi Vis workwear or vest and work boots

Failure to present with the above listed equipment may lead to the assessment being discontinued and the participant will incur the cost of re-assessment (\$695 + GST).

7. LOCATE TIPS

The four key minimum features of a compliant EMF Locator

1. Manual Gain
2. Separate Peak and Null
3. A range of Frequencies. Low, Medium and High.
4. Be able to read Current

These features are required to enable us to provide a reliable electronic location.

The four steps to a reliable EMF location

1. **Connect:** Ideally Direct Connect or Induction Clamp.
2. **Confirm:** Sweep connection point, determine signal points, identify target by current.
3. **Trace:** Minimise gain adjustments and check Peak/Null.
4. **Sanity Check:** Trace to logical end point. If a pit, open and verify.

AS-5488 Quality Levels

1. QL-A Verified Potholed +/- 50mm
2. QL-B Reliable EMF location. +/-300mm horizontal and +/- 500mm vertical tolerance
3. QL-C Identify buried assets by surface features but not able to achieve QL-B
4. QL-D Identify asset in the vicinity by plans but not able to achieve QL-B

QL-C and QL-D provide no special accuracy.

Gain

- > Gain must be manual, not automatic.
- > Set to 50-60%
- > When gain changes it is telling you something.
- > Change of direction or depth.
- > A split or tee in the target.

Peak / Null

- > Allows us to determine if we have a round signal or a distorted signal.
- > Tells us if we can give an accurate depth.
- > If Peak and Null do not align, we have a distorted signal and should not give a depth.
- > Allows us to determine true location of the target. Half the distance between the Peak and Null and transfer outside the Peak.
- > **ALWAYS check Peak and Null before placing a mark.**

Weak or Poor Signal

- > Weak or Poor signal is different to distorted signal.
- > It is identified by the displayed signal not being steady.
- > The audible signal will also be erratic.
- > **Always start at the lowest frequency likely to give a good signal and at the lowest signal output.**
- > If the signal is weak or poor
- > Increase the signal output one level at a time
- > If this doesn't correct it go back to the lowest signal output and up to the next Frequency

Signal Trace Frequencies

- > **Low Frequency** – Typically 8 kHz and lower - Low frequencies are generally best for Direct Connection.
- > **Medium Frequency** – Typically 33kHz - Medium frequencies are generally best for the Induction Clamp.
- > **High Frequency** – Typically 65kHz and higher - High frequencies are generally best for Spill Induction / Drop Box method of applying signal.
- > **Always start at the lowest frequency and signal output that is likely to provide a good signal**

Current

- > We read it in milli amps mA
- > It is used to determine the target. Highest mA.
- > Used to identify branch line or tees.
- > We want to achieve Maximum current for best signal flow.

- > **To increase Current**

1. Reduce resistance - e.g. water on earth stake, use bigger earth stake, connect bigger target (largest cable size)
2. Increase voltage - Increase transmitter output.

Active Methods of Locating

- > Direct Connect
- > Clamp
- > Induction

Passive Methods of Locating

- > We use only the receiver
- > We detect naturally occurring noise.
- > We can only determine conductive assets
- > We cannot identify them.
- > **Caution! Power Passive does not necessarily identify power cables.**

Work to a process

1. Where is the jobsite
2. Obtain BYDA (essential) and any other plans or anecdotal information
3. Clarify work area with client
4. Walk and inspect work area looking for signs of buried assets.
5. Check all plans and prioritise them
6. Locate everything you can to QL-B
7. Identify that which is QL-D or QL-C
8. Complete active and passive sweeps
9. Complete Asset Location Report and go over with the client

Plans are not 100% accurate

- > Never take plans as the truth. They are a guide.
- > Always compare what the plan says to what you see and let your locator discover the truth.
- > Open every pit.

8. CANDIDATE INFORMATION

8.1. Candidates

Throughout this manual, locators undertaking the assessment process are termed “Candidates”.

8.2. Access and equity

CERTLOC actively supports and encourages people of all abilities to participate in our assessment program. All staff members and contractors are responsible for ensuring access and equity to people of all abilities for all assessments provided by CERTLOC.

8.3. Systems management

CERTLOC will maintain systems for recording and archiving client enrolments, examinations, assessment outcomes, complaints, statement of certification issued, et al. CERTLOC will treat all personal records of clients confidentially.

8.4. Cancellation and Refund policy

If a Candidate is unable to attend the practical assessment, CERTLOC reserves the right to charge a cancellation fee of \$695 + GST. This is outlined in the [Terms and Conditions](#).

8.5. Managing conflict of interest

It is understood that Candidates and Assessors may have potential conflicts of interest (whether actual or perceived). Such conflicts or perceived conflicts may be related (but not limited) to:

- > Competing business interests
- > Assessors have conducted training or a previous assessment for the Candidate

These are generally more perceived than real however any Assessor or Candidate who feels a possible conflict exists must immediately notify the CERTLOC at the time of arranging the assessment. Failure to do so will void grounds for appeal on the issue. Candidates will need to be aware that an alternative Assessor may not be available and could delay assessment for some time. Additional costs may also have to be borne by the Candidate.

8.6. Quality Management

CERTLOC operates a Quality Management System for the provision of assessment of Certified Locators and Skills Development training, the administration of the Certified Locator Program and the Certified Locating Organisation Program and the delivery of Pre-Excavation Management course.

(Refer CERLOC's [Quality Policy](#))

8.7. Complaints and Appeals Policy

CERTLOC recognises the need for Candidates, staff and other clients to have confidence that the Organisation will deal with grievances in a fair and equitable manner based on procedures that are appropriate, accessible and easily understood.

8.8. Assessment Appeals

Assessment appeals must be submitted in writing to info@certloc.com.au

8.9. Language, Literacy and Numeracy

Language, Literacy and Numeracy (LL&N) skills are essential aspects of work performance and shall be explicitly addressed in the assessment process. The CERTLOC Certified Locator practical assessment (standard) requires the Candidate to read and interpret plans, drawings and specifications and as such:

- > The Candidate MUST have the reading skills to read and interpret information contained in plans/drawings and specifications
- > The Candidate MUST have the numeracy skills to convert numerical values and scales shown on plans, drawings and specifications

9. COMPLAINTS AND APPEALS POLICY

CERTLOC Ltd recognises the need for Candidates, staff and other clients to have confidence that the Organisation will deal with grievances in a fair and equitable manner based on procedures that are appropriate, accessible and easily understood.

CERTLOC has a duty of care in ensuring Candidates undertake assessments in an environment free of coercion, unfair treatment, or harassment.

Nothing in these procedures limits the rights of individuals to take action under Australia's Consumer Protection laws.

CERTLOC is constantly reviewing and updating policies, as a grievance helps us to fix a problem and assists with continuous improvement.

9.1. Complaint or Appeal:

A complaint would generally be directed at the general performance of CERTLOC or its staff in the delivery of our services.

An appeal would generally be directed at the assessment outcome and/or assessment process.

Candidates are required to submit a complaint or appeal in writing.

A complaint or appeal will be dealt with promptly. All complaints will be dealt with by the CEO and contact will be made within 10 working days to arrange a time to discuss your complaint or appeal.

Candidates will be provided with a written outcome on their case including the rationale for the decision. If a Candidate is satisfied with the resolution, agreed actions will be implemented and the complaint or appeal will be closed.

If a Candidate is not satisfied with the outcome and the above processes are not effective in resolving the issue, then a suitable person or panel (determined by the CEO) may be engaged to aid in the resolution of the issue.

9.2. Grounds for Appeal

An application for appeal will be considered where:

1. A Candidate claims a disadvantage because the Assessor did not provide an assessment outline
2. A Candidate claims disadvantage because the Assessor varied without consultation or in an unreasonable way the assessment requirements as specified in the subject outline
3. A Candidate claims disadvantage because assessment requirements specified by the Assessor were unreasonably or prejudicially applied to him or her
4. A Candidate is of the view that a clerical error has occurred in the documenting of the assessment outcome
5. A Candidate claims disadvantage because the Assessor did not follow the guidelines as per Assessor instructions on assessment instrument

9.3. Record Keeping:

A written record of all complaints handled under this procedure and their outcomes will be maintained for a period of five years. These records will remain with the Candidates file and cannot be accessed without a written request to the CEO.

If the appeal for re-assessment is proven, CERTLOC will appoint an alternative Assessor who will make all necessary arrangements to conduct the re-assessment of the Candidate at a time that is mutually convenient for all parties concerned at no cost to the Candidate.

10. GLOSSARY OF TERMS

Term	Definition
Active Locating	The process of applying Voltage to a target line using the Transmitter to create a Current flow and an Electro Magnetic Field. The Receiver then detects the signal and traces it at the surface. The three active methods are Direct Connect, Induction Clamp and Spill Induction.
Airbourne Signal	Sometimes called airlock, this occurs when the Receiver is too close to the Transmitter but only when using the Spill Induction method, causing Signal interference that affects accurate Target line and depth detection.
Alternating Current (AC)	Alternating Current (AC) is essential as it generates the Electro Magnetic Field we call the Signal. It also allows Induction to happen and will pass through a capacitor i.e. Capacitance Effect.
Asset	Is a piece of infrastructure, typically pipes and cables, owned by an entity or person for the conveyance of a product such as water, sewer, gas, electricity or telecommunication signal.
Asset Markers	Sometimes referred to as street furniture or service indicators. These include pits, valves, cabinets, taps, marker posts and signage etc, that indicate the presence of services.
BYDA	Before You Dig Australia is a free referral service that provides access to Asset owners plans upon request.
Capacitance Effect	When there is no Far End Earth for the Current to travel to, the Current, which creates the signal (Electro Magnetic Field), will discharge off the Target line as it travels to the end of the target line. How well Capacitance Effect works is dependent on the length of the Target line and the amount of Conductive material in the Target line.
CERTLOC	Formerly DBYD Certification, is a not-for-profit Certified Locator Institute providing comprehensive training and certification programs for locators, utility contractors, civil contractors, and other ground disturbers.
CERTLOC Certified Locator	Is a person who has successfully demonstrated competency to correctly identify and locate buried Assets by way of both theory and practical assessments. Some assets owners such as Telstra, Optus and others only permit Certified Locators to access their Assets for the purpose of locating them.
CLO	Is a Certified Locating Organisation. This is a business with the required equipment and insurances to perform locating work and employs CERTLOC Certified Locators to carry out this work.
Conductor	Something metallic that will carry an electrical Current.

Term	Definition
Current	Current occurs when a Voltage is applied to a Conductive Target, and it can travel along the Target line and return to the source. It is the Current that generates the Electro Magnetic Field that is the Signal that we detect. It is read in Milliamps (mA).
Direct Connect	This is the most accurate method of locating buried assets as it works at low Frequencies. It is when the red lead from the Transmitter is connected to the Target and the black lead is connected to the Earth Stake or, the in the case of a Double Ended connection, is also connected to the Target.
Direct Current (DC)	Batteries produce direct Current (DC). Direct Current is not used for locating because its Electro Magnetic Fields does not allow Induction to happen and will not pass through a capacitor i.e. Capacitance Effect will not happen.
Distorted Signal	This is also referred to as a non-round Electro Magnetic Field, which occurs due to nearby Conductive material and/or Frequency being too high. Peak (not broad or single Peak) and Null signal are not in the same position indicating a Distorted Signal.
Double Ended connection	Is when using the Direct Connect method, both the red and black leads are connected to the Target. Current will travel between the connection points only.
Earth Stake	The point to which the current returns to after leaving the target when using the Direct Connect method. Sometimes referred to as a Ground Stake
Electronic depth check	Also referred to as digital depth validation. It is the process of taking a depth reading when the Receiver is touching the ground. A method of checking this is to increase the height of the Receiver a known amount and confirming the new depth reading is accurately reflected on the digital display.
EMF	Electro Magnetic Field. It is what we are creating and is the Signal we detect with the Receiver for the purpose of locating buried Conductive Assets.
Far End Earthing	Is where the Asset we are trying to locate is connected to Earth / Ground at the far end. We can substantially improve Signal Strength particularly with Trace Rods and Trace wires etc, by connecting them to earth via an Earth Stake at the far end.
Frequency	The number of times at which Current cycles on and off per second is known as a Hertz. Locators use Current in both the Hz and kHz range.

Term	Definition
Gain	Signal Strength is adjusted at the Receiver using the Gain control and measured in decibels (dB).
GPR	Ground Penetrating Radar (GPR) is a device that uses radio waves to create images of the subsurface. It sends radio waves from the antennae into the ground which reflect back from the object to the antennae based on object size, density, and ground conditions. It can show a buried object and ground anomalies but does not identify what the buried object is.
Ground Stake	The point to which the Current returns to after leaving the target when using the Direct Connect method. Typically, an American term.
HV	High Voltage. Above 1,000 volts
Hydro Vac	High-pressure water jet blasting is used to convert the ground into a slurry, which is then removed through vacuum extraction to expose buried Assets.
Induction	Is when voltage transfers from one Conducive item to another without an electrical connection which is how a transformer works. This only happens with AC (Alternating Current). It is used in EMF locating for Signal creation using either the Induction Clamp or Spill Induction. Also, for the detection of a buried Asset by converting the Electro Magnetic Field on the target to Voltage, which is then displayed on the Receiver as a visual display and audible noise. This process can also create Voltage on nearby Conducive Assets, leading to ghosting and false signals.
Induction Clamp	A device used to apply Voltage to a Conducive Asset with no electrical connection to the Target by means of Induction for the purpose of locating it.
Locator	This refers to both the person carrying out the task of locating buried assets but also to the EMF locating instrument used by the Locator.
LV	Low Voltage electricity. 50 volts to 1000 volts.
NDD	Non-Destructive Digging. This can be done using careful Hydro Vacuum Excavation (Hydro Vac), careful hand digging or similar but does not include mechanical excavation such as excavators, backhoes, bulldozers, graders etc.
Non-Conductive	Something that will not carry an electrical Current such as plastic, PVC (Poly Vinyl Chloride), concrete, AC (Asbestos Cement), nylon, glass etc
Null	Is a method of detecting a Target, where the Signal is detected as a minimum over the Target, and increases in strength as the Receiver moves away from the Target line. It provides both visual and audible

Term	Definition
	responses. It is used in conjunction with the Peak signal to determine a round or distorted signal.
Passive Locating	Searching for signals from 'unknown' conductive assets using the Receiver only on Radio or Power settings. These methods do not identify a Target, particularly Electrical cables, both LV and HV.
Peak	Is a method of detecting a Target where the Signal is detected as a maximum over the Target and decreases in strength as the Receiver moves away from the Target line. It provides both visual and audible responses. It is used in conjunction with the Null signal to determine a Round Signal or Distorted Signal.
Receiver	Is the part of the EMF locator that detects the Electro Magnetic Field created by Active Methods and Passive Signal. Sometimes called the wand.
Round Signal	Is where the Electro Magnetic Field around a Conductive Asset is circular and not elongated
Sanity Check	Is the final verification of the target by tracing to a visual or logical endpoint. A term also used in the legal and science world for the multiple verification of a fact.
Signal	Is the Electro Magnetic Field that the Receiver detects
Signal Output	Also referred to as Power Output. The power output can be altered at the Transmitter to increase or reduced the Current (Milliamps), to alter the Signal Strength on the Target line.
Signal Strength	Also referred to as sensitivity. This is the amount of Signal displayed via the bar graph, percentage display and audible Signal response and is adjusted using the Gain Control on the Receiver.
Sonde	An independent device that, once the battery is installed, creates its own Electro Magnetic Field (Signal). Used on the end of a Traceable Rod to pinpoint the specific location of a nonconductive asset.
Spill Induction	Also known as "drop the box". Spill Induction is the use of the Transmitter, with no connected accessories plugged in, placed directly over a Conductive Asset alignment to induce Voltage and produce an EMF Signal. It is an Active Locating method that must be used with caution.
Target	Is the specific Asset that we are attempting to locate.
Trace wire	A Conductive wire installed with a Non-Conductive Asset to assist with the location of the Non-Conductive Asset.

Term	Definition
Traceable rod	A flexible fibreglass rod that incorporates a Conductive element, commonly mounted on a reel. It can be inserted into a Non-Conductive pipe containing a Non-Conductive asset, such as fibre optic cable, to allow the location of the Asset.
Transmitter	Is the part of the EMF locator that creates and applies the Voltage to the Target that we are wanting to locate, using either Direct Connect, Induction Clamp or Spill Induction.
Transponder	An independent device that can be installed above the unlocatable point of an Asset. It requires the use of a Transponder locator to activate the transponder and locate it at its specific Frequency.
Voltage	Voltage is what the Transmitter applies to the Target that we want to locate. Voltage is pressure. As voltage increases so does Current.
Weak/Poor Signal	Displayed on the Receiver as fluctuation of the Signal bar graph, Signal percentage or audible sound. It is a result of poor current flow due to one or more things, such as incorrect earthing, weak Signal Output, Frequency selection or ground conditions such as dry, sandy or rocky ground.