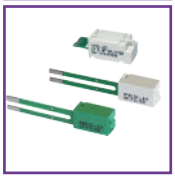
# Cable Tracing Equipment CT45

- Efficient and versatile cable and wire tracer
- For locating telecoms cables & faults and mains house wiring
- Helps to distinguish certain cables and wires from others
- For tracing buried cables, conduit, sewer-pipes and blockages











*Test equipment for telecom and electricity professionals since 1968.*

VESALA®

# All you need is CT45

The versatile CT45 cable and wire tracer enables telecom technicians and electricians to locate various types of cables and associated problems. For example, telecom and mains cables, wire pairs, under floor heating cables, cable conduit and even sewer-pipe blockages.

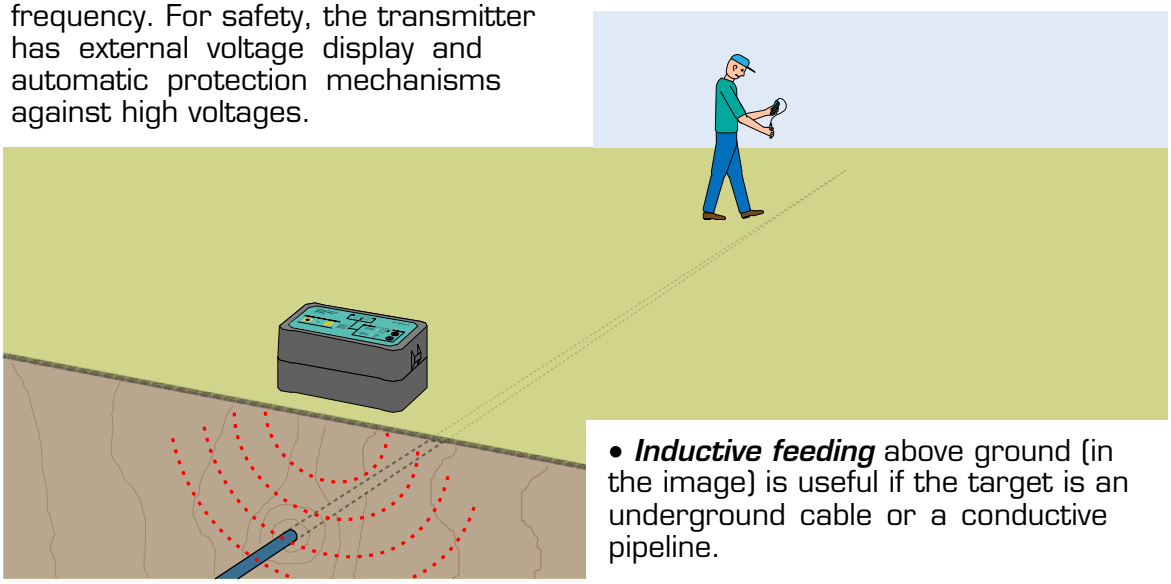
The CT45 package includes the CTT45 transmitter, CTR45 receiver and various accessories. The powerful, efficient transmitter ensures an operating distance of up to several kilometres. Together with its sensitive receiver the CT45 combines a flexible setup, which won't let you down even in the trickiest situations.

## CTT45 Transmitter

**CTT45 can be used in three basic ways:**

- **In galvanic usage**, in low voltage applications, the CTT45 provides accurate cable tracing or long-range pair identification with wired connection to the target. Fault-spot tracing is also possible with the new 1kHz feeding frequency. For safety, the transmitter has external voltage display and automatic protection mechanisms against high voltages.

- **Inductive feeding:** In high voltage (typically mains) application a PM80 or PM34 clamp on transformer (accessory) can be used.



- ***Inductive feeding*** above ground (in the image) is useful if the target is an underground cable or a conductive pipeline.

## CTR45 Receiver

CTR45 receiver recognizes and traces the 1kHz and 10kHz signals generated by the transmitter. Furthermore it can be used to trace 50Hz mains wires without the transmitter.

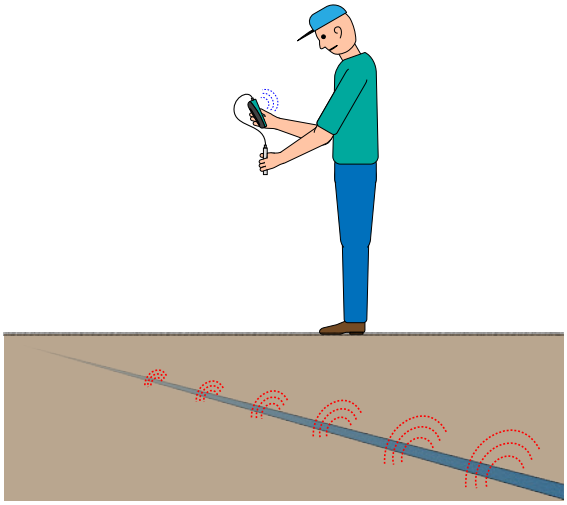
Standard setup includes three probes: The inductive rod probe SA1 is ideal for tracing cable routes. The inductive close range probe LA1 is for distinguishing cables from each other or tracing fault-spots and the capacitive probe KA6 is used for identifying wires and pairs.

Receiver has an informative 12 LED bar display for the signal volume. Clear audio volume & signal gain adjustment help adjustment for various tracing conditions such as extended transmission distances or ambient noise.

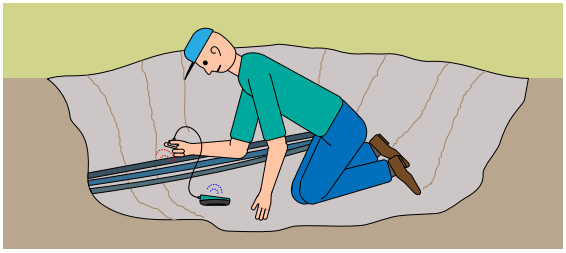
By using the HM12 headset CTR45 can be used in noisy environment.

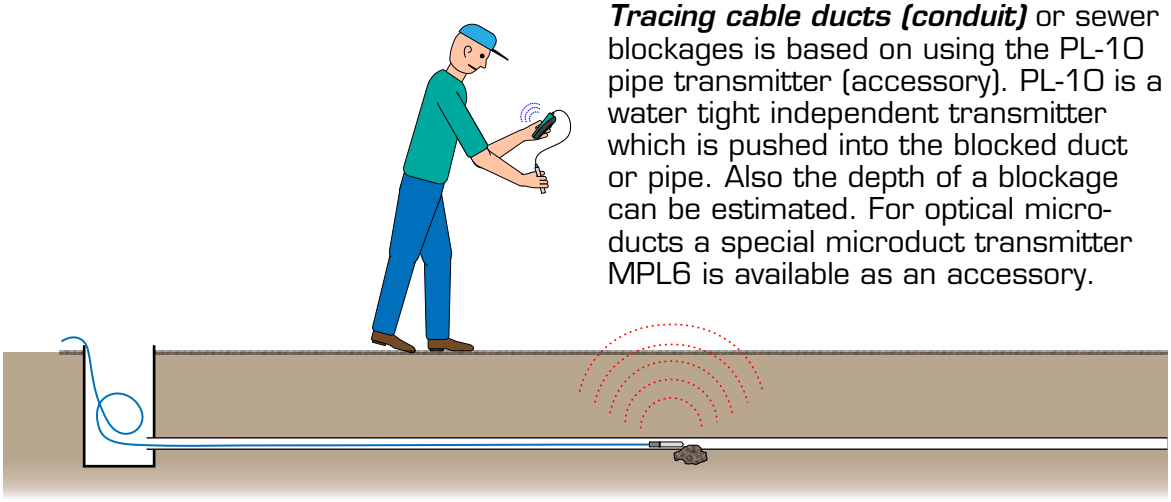
# How to use CT45

***Cable tracing:*** Defining the route of telecom or mains cables under ground with SA1 probe is one of the most typical cases where the CT45 can be used. The signal can heard from several metre distance and even the cable depth can be closely estimated.

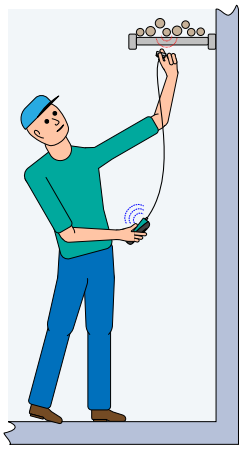


**Fault-spot tracing:** The LA1 probe is used also for so-called fault spot tracing. Using the 1kHz feeding frequency causes minimal cross-talk to other cables and the location of a short circuit in a cable can be found.

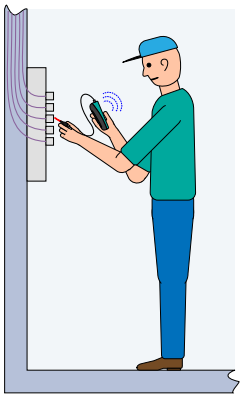




***Cable identification:*** By using the LA1 close range probe it's easy to trace cable inside walls or identify a certain cable among other cables on cable shelves.



***Wire Tracing:*** During installation or renovation work pairs from apartments are easy to find e.g. at house MDF with the capacitive KA6 probe without having to touch the wires.



***Tracing cable ducts (conduit)*** or sewer blockages is based on using the PL-10 pipe transmitter (accessory). PL-10 is a water tight independent transmitter which is pushed into the blocked duct or pipe. Also the depth of a blockage can be estimated. For optical micro-ducts a special microduct transmitter MPL6 is available as an accessory.

## General information

The transmitter and receiver use alkaline batteries and both have clear low battery indication.

The receiver has an integrated speaker. An external headset can be used for tracing in noisy environment.

CT45 is delivered in a handy carrying bag.


## Technical specifications

**Transmitter CTT45**

**Galvanic output signal**
1024Hz/10,000Hz interrupted or modulated sinusoidal wave (Inductive signal 10,000Hz only)

**Galvanic output level and impedance**
Approx. 40V (rms), approx. 450ohms

**Indicators**
LEDs for external voltage, output current, operating mode and power. Buzzer for sound indications.

**Connectors**
2pcs. 4mm safety banana jacks

**Batteries and power consumption**
6 pcs. IEC LR20 alkaline batteries. 30 … 700mA (depending on the mode and load)

**Enclosure size, weight and ingress protection**
ABS, size 248 x 134 x 122mm, approx. 2.0kg with batteries, IP55

**Receiver CTR45**

**Operating frequencies**
1024Hz, 10kHz and 50Hz (<200Hz)

**Adjustments**
4-step gain adjustment, 4-step audio volume adjustment

**Indicators**
12-step LED bar for receiving signal level & 13 other LED indicators. Internal speaker for tracing signal and other audio features

**Connectors**
BNC female (for probes) and 3.5mm jack (for headset)

**Batteries and power consumption**
6 pcs.1.5V IEC LR6 alkaline battery (or similar NiMH cells), 19…120mA (typical 30mA)

**Enclosure size, weight and ingress protection**
ABS 155 x 90 x 50mm, 425g, IP34

**CT45 basic setup**

CTT45 (transmitter)
SJ20 (sending cord 2.0m banana/banana), crocodile clips
CTR45 (receiver)
SA1 (inductive rod probe)
LA1 (inductive close range probe)
KA6 (capacitive probe)
AK1 (probe cord, 1.0m, BNC/BNC)
User manual
KPP6 (carrying bag)

**Main accessories**

PL-10 (pipe transmitter), MPL6 microduct transmitter, PM80 and PM34 (clamp-on transformers), MP2 (ground pick), HM12 (headset with microphone)

*Notes: VESALA is a registered trademark of H.VESALA Ltd, Finland. Consult us for more information about CT45 usage and accessories.*



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