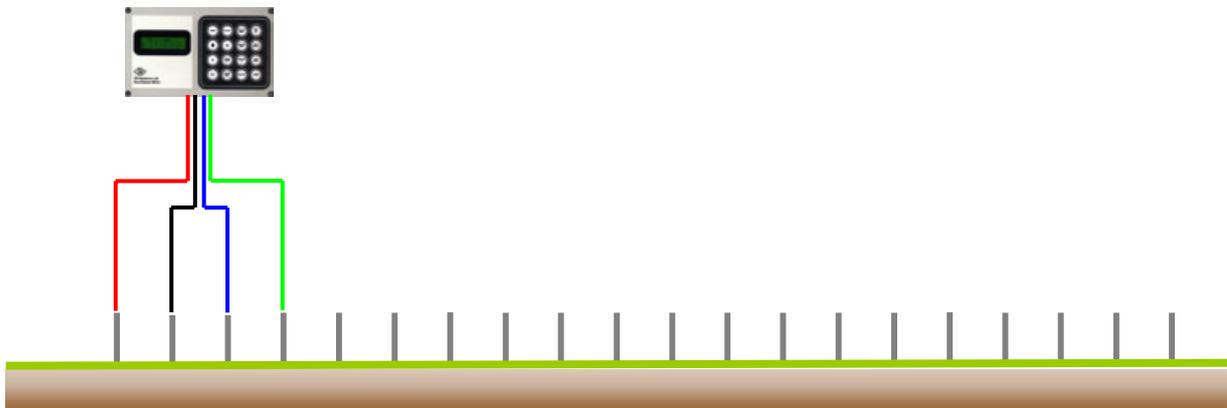


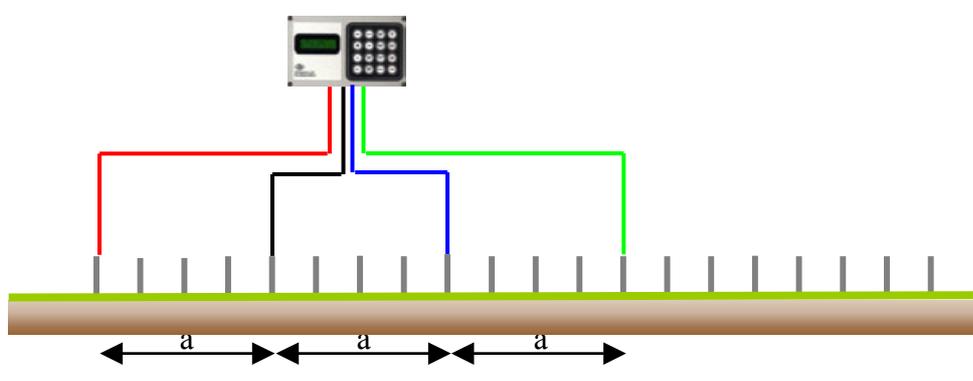
TR/CIA RESISTANCE METER

Electrical Imaging Using the TR/CIA Resistance Meter



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The TR/CIA meter was specifically designed for use with the popular twin probe array for quick and detailed area surveys. However, the meter can be used in a different configuration to produce vertical electrical sections. To generate a section a number of probes, say 20, are set out at regularly spaced 1m increments along a line. The meter is then used in the Wenner configuration to record all the measurements possible along this traverse of 20 probes.



Separation "a" is always equal

A total of 57 readings are logged using the meter, at six different separations - 1m, 2m, 3m, 4m, 5m and 6m along the traverse, the probes remaining in position until all the readings are taken. The data is then downloaded using a new version of the interface program, and automatically processed. To produce a pseudosection the data is "inverted". A typical inversion result is shown below. This is an 18C brick culvert in Wrest Park, Bedfordshire, the section and drawing, produced several years earlier following an excavation further along the culvert, is included for comparison.

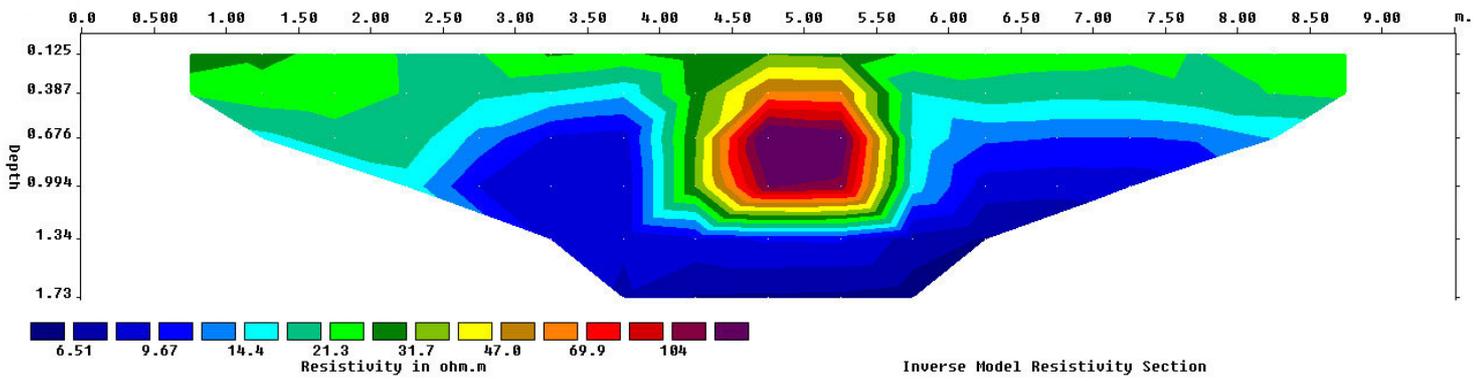
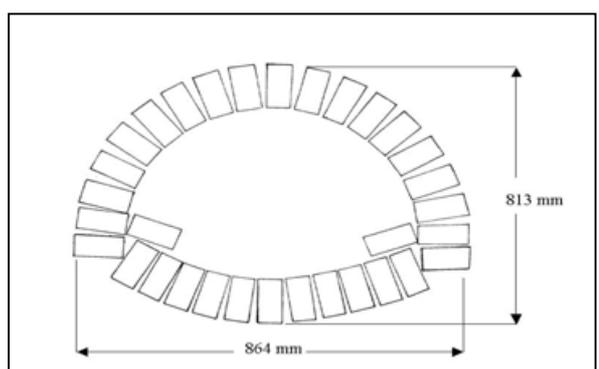
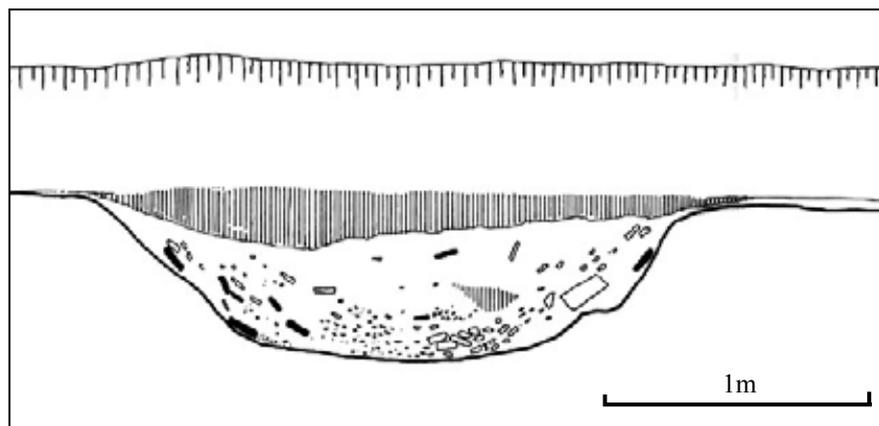
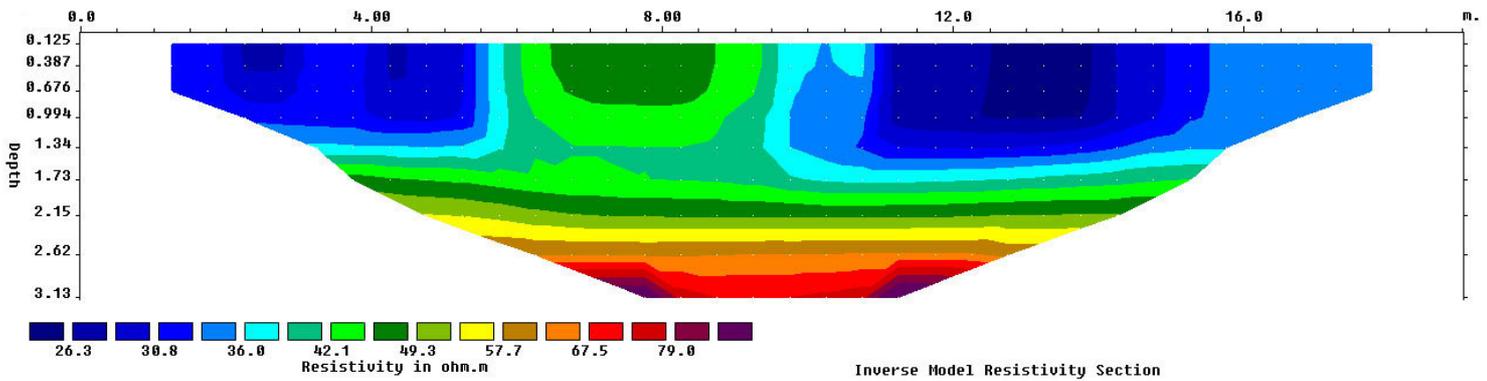


Fig. 5. Collapsed end of Culvert with modern land drain insertion 4.3.



Below is example pseudosection for a ditch. The ditch appears as a positive, higher resistance, feature in both the standard twin probe survey and at the 8m mark in the pseudosection. An excavated section for another part of the ditch has been included for comparison.



Probe and cable kit.

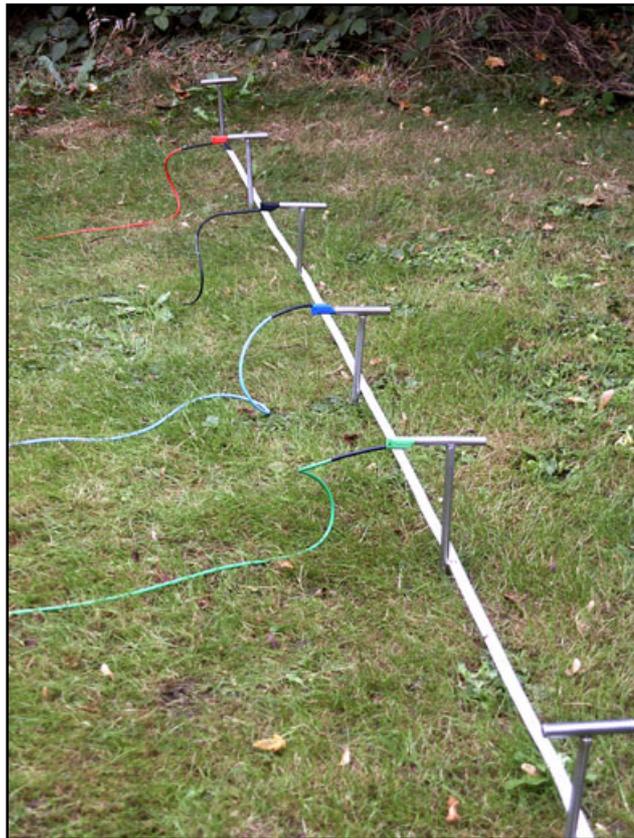
A kit for, and used in conjunction with, the TR/CIA resistance meter is available and shown overleaf. It consists of 20 stainless steel ground probes plus a cable and connector set together with new interface software CD that allows the meters logging facilities to be used. To obtain the maximum accuracy it's important to use the meters logger as the values displayed on the LCD are rounded. The CD has full instructions detailing the meter setup and the survey method, it also includes a worked example and data set for the culvert detailed above.

The 20 probes included are the minimum required – additional probes may be needed and are available as an optional extra.



Cable set, new interface software and 20 Stainless Steel Probes.

The only additional equipment required will be tapes, a TR/CIA resistance meter and a PC for data processing display.



Cable set and probes in use.

Kit Specifications

Probe Array used.	Wenner Alpha
Maximum probe separation.	6m.
Maximum cable length	14m
Cable Type	Double insulated Flexible Test Leads -20°C +80°C
Connectors	Bulgin Buccaneer threaded IP68 connectors for TR/CIA resistance meter only. Probe connectors: 4mm Nickel Plated Brass Plugs.
Probe materials.	Stainless steel.
Probe length	300mm
Probe weight (20 off)	4.6 kg
PC software for use with	Microsoft Windows® 95/98/ME/NT(SP6)/2000/XP TR/CIA resistance meter only

Note. All specifications and descriptions are subject to change without notice and are for guidance only.

A kit, consisting of 20 stainless steel probes, cable set and interface software is available, to order, from TR Systems Ltd – please contact us for the prices.

Additional probes are available in quantities of ten at a discounted price if ordered at same time as the kit .

For more information, prices or to order a kit please contact:

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