KT-10 Magnetic Susceptibility Meter

The KT-10 Magnetic Susceptibility Meter includes a number of major benefits such as being one order of magnitude more sensitive than its predecessor, Bluetooth Communication to store Readings integrated with GPS coordinates and Data Transfer, more Accurate Scanning and Data Management and Visualization for PC. A new Range of Optional upgrades are now available: you can **obtain Real Time Profiling with your Android smart phone** and/or you can **measure simultaneously susceptibility and conductivity on two different frequencies.**

Major Benefits

- **Higher Sensitivity**

The KT-10 is one order of magnitude more sensitive than its predecessor when used on smooth surfaces. This maximum sensitivity is now 1×10^{-6} SI units.

- **Better Sample Measurements**

The KT-10 can be used with a pin for rough surface measurements or without a pin when you can establish direct contact with the sample. When pressing the pin against field samples or outcrops, and when the susceptibility meter is kept parallel to the surface, it provides a reading with increased accuracy. It also automatically corrects and displays the true magnetic susceptibility.

- **Improved Data averaging**

The KT-10 has a user configurable data averaging capability. You can store a number of consecutive readings from a sample, their average and their standard deviation for quality control.

- **Larger Memory**

The KT-10 stores up to **3000** readings in its internal non-volatile memory. Average readings and standard deviation are also stored. The operator can record up to one minute of comments associated to each specific reading through the KT-10 digital voice recorder.

- **More Accurate Scanning**

The KT-10 scans up to 20 readings per second. The operator can also add markers to the data set to identify the location of those measurements.

- **Improved PC Interface**

The KT-10 now includes **GeoView Multiplatform** software, for Data Transfers and Data Visualization. It is now possible to download and visualize your KT-10 data with the click of a few buttons. **GeoView** can also play back the voice notes stored along side your readings, change KT-10 settings, transfer your data to a spreadsheet and view or export GPS path in Google Earth compatible format.

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Other Benefits

- **Variable Audio Capability**

When used in the **Scan Mode**, the KT-10 speaker allows the operator to monitor the variation in the magnetic susceptibility measurements with a variable audio tone, which reflects the relative intensity of the reading. The voice recorder allows the recording and replaying of voice messages through the speaker as well

- **Large LCD Display**

A high contrast LCD is utilized for the display of the magnetic susceptibility readings and it also serves as the interface for operating the instrument. Together with two buttons and graphical menus, operators can interactively navigate the different functions. Icons allow the operator to monitor the battery status, Bluetooth connectivity, GPS support and more.

- **USB Data Transfer**

The KT-10 uses USB communication standards as the default mode of communication. It allows fast data transfer of measured values and digital voice streams for the unit to any Windows PC The USB can also be used for firmware upgrades and parameter settings.

- **Bluetooth Connectivity**

Bluetooth is already standard with the KT-10. So when an operator uses a Bluetooth enabled GPS, it allows them to store the GPS coordinates in the KT-10 memory along with the readings. Bluetooth can also be used to download readings **wirelessly** from the unit along with the voice streams.

- **Smaller and Easier to use**

The KT-10's smaller size and ergonomic design make it easier to use and carry. Its interactive menu also facilitates its operation.

- **Power Supplies**

The KT-10 standard configuration is available with two Alkaline AA size cell batteries, which allows the operator to take up to 4000 readings when the optional voice recorder is not being used.

- **More Reliable**

The KT-10 meets IP65 standards, and is therefore protected against dust and provides additional protection in rainy or high humidity conditions.

- **Storage/Transportation**

The KT-10 is delivered in a small pouch with a foam insert. The pouch can be mounted on a belt and comfortably carried on the waist. A set of spare batteries and **PIN** can be also placed in the pouch for storage.

- **Programmable Calibration**

You can now recalibrate your KT-10, either by using the optional Susceptibility Standard or with a known sample which susceptibility is closer to the samples or cores you want to measure.

Standard Configuration

The KT-10 standard System is supplied with:

- KT-10 Console with pin, and wrist strap
- Two Alkaline AA Batteries
- Spare Pin
- USB Cable
- CD with GeoView Data Transfer Software
- Operations Manual and a Quick Start Guide
- Small Pouch with foam insert
- White Cardboard Box

GeoView PC Interface Software:

- **Data Organization**

The **GeoView Multiplatform** Software allows you to organize your KT-10 data by date and by serial number. It also facilitates the data transfer from your KT-10 into your data base for further correlation and interpretation. The GeoView is compatible with Windows and Linux Operating Systems.
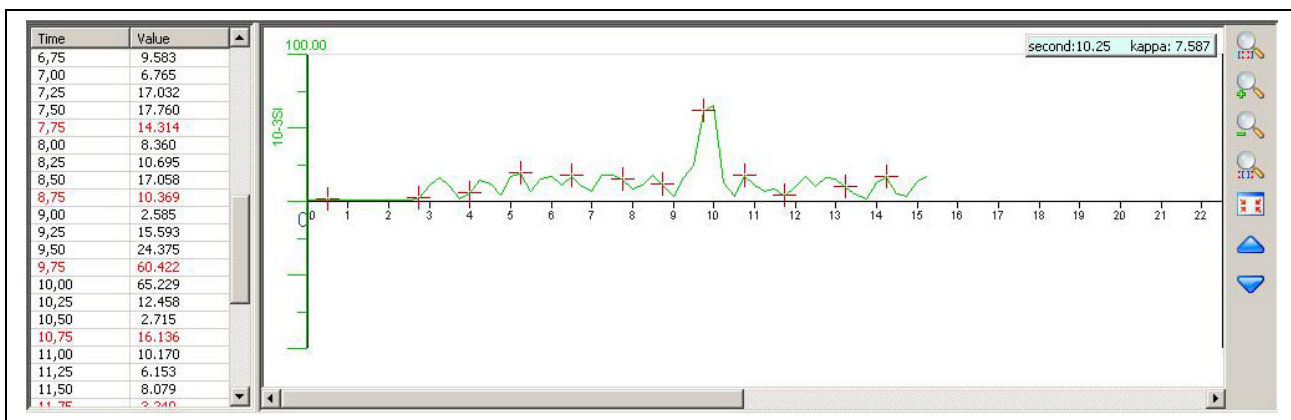
As you can see below, averaged readings are grouped together with records containing date, time, value, voice notes and optional GPS positions, all in one convenient location. Users can also add custom fields to enter field data which is then contained in the exported file.

Id	Time	Kappa[10-3SI]	Average +/- std	Information	Voice note	Latitude	Longitude	Altitude	Description	SampleID	
1514	4:51:44 PM	322.016				43o54'5.92"N	78o49'25.79"W	90m			
1515	4:52:02 PM	307.251				43o54'5.92"N	78o49'25.79"W	90m			
1516	4:52:19 PM	309.435				43o54'5.62"N	78o49'25.51"W	90m			
1517	4:52:31 PM	303.711	310.102 +/- 6.121			43o54'5.62"N	78o49'25.51"W	90m			
1518	4:52:52 PM	306.161				43o54'5.87"N	78o49'25.69"W	109m			
1519	4:53:06 PM	300.090									
1520	4:53:23 PM	298.038				43o54'5.87"N	78o49'25.72"W	109m			
1521	4:53:54 PM	306.528				43o54'6.02"N	78o49'25.78"W	119m			
1522	4:54:07 PM	299.697				43o54'6.02"N	78o49'25.78"W	119m			
1523	4:54:59 PM	300.685	301.866 +/- 3.578			43o54'5.81"N	78o49'25.44"W	97m			
1524	4:56:20 PM	333.007				43o54'5.90"N	78o49'25.55"W	101m			
1525	4:56:36 PM	332.195				43o54'5.90"N	78o49'25.55"W	101m			
1526	4:56:47 PM	329.013				43o54'5.90"N	78o49'25.55"W	101m			
1527	4:57:01 PM	333.279				43o54'5.78"N	78o49'25.55"W	92m			
1528	4:57:22 PM	328.360	331.171 +/- 2.310			43o54'5.98"N	78o49'25.60"W	109m			
1529	4:58:38 PM			Scanner		43o54'5.98"N	78o49'25.60"W	109m			
1530	4:59:03 PM			Scanner		43o54'5.79"N	78o49'25.64"W	106m			
1531	5:00:12 PM			Scanner		43o54'5.87"N	78o49'25.70"W	106m			
1532	5:01:22 PM			Scanner		43o54'5.87"N	78o49'25.70"W	106m			
1533	5:02:21 PM			Scanner		43o54'5.87"N	78o49'25.70"W	106m			

- **Data Visualization**

Numerical display allows for quick review of field data while graphical display aids in the interpretation of scanner data.

As shown below the Scanned data is displayed in graphical mode. Using markers can quickly identify visual indicators or units of measurement along the core sample
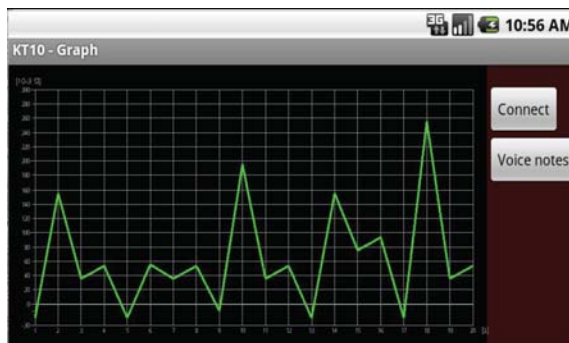
Time	Value
6,75	9.583
7,00	6.765
7,25	17.032
7,50	17.760
7,75	14.314
8,00	8.360
8,25	10.695
8,50	17.058
8,75	10.369
9,00	2.585
9,25	15.593
9,50	24.375
9,75	60.422
10,00	65.229
10,25	12.458
10,50	2.715
10,75	16.136
11,00	10.170
11,25	6.153
11,50	8.079
11,75	3.240

second:10.25   kappa: 7.587

The Scanned data is displayed in graphical mode. Using markers can quickly identify visual indicators or units of measurement along the sample

KT-10 Options

KT-10 owners can upgrade their Susceptibility Meter to include the Android Application for Real Time Profiling , add the KT-10 Plus capabilities or both through the internet. The KT-10 S/C upgrade requires the unit to be sent back to Terraplus.

Android Application for Real Time Profiling

You can now display Real Time Scanner Profile on Android platform operated Smart Phones. Their large display will show Real Time Animated Graphical output while scanning and can be used as a KT-10 memory Data Browser to display field measurements/records. This allows users to Pan and Zoom on Scanner Graph. You can add text notes with your Android Smart Phone and transfer them **automatically** to the data stored on the KT-10.

KT-10 Plus Iron Ore Concentration Measurement Estimates

The KT-10 Plus is able to measure iron ore samples and core up to 10 SI units. With this extended range and pre-installed calibration curve, it is possible to obtain the concentration estimate of iron ore directly from the KT-10 Plus. If the samples and cores you are working with have a different composition or structure than those used to set up the calibration curve included in your KT-10 Plus, you can program yourself up to 2 calibration curves which are specific to the samples and cores you are measuring.

KT-10 S/C Combined Magnetic Susceptibility and Conductivity

The KT-10 dedicated Magnetic Susceptibility Meter can be upgraded to a KT-10 S/C to measure simultaneously both the Magnetic Susceptibility and Conductivity. The KT-10 S/C is a Dual Frequency System helping the end user to **separate** better the **magnetic susceptibility from the** conductivity in specific measurements. The KT-10 S/C includes the standard Software Application to display Real Time Scanner Profile on Android platform operated Smart Phones. Their large display will show Real Time Animated Graphical output while scanning at **10** times per second and can be used as a KT-10 S/C memory Data Browser to display field measurements/records.

Magnetic Susceptibility Standard

A Magnetic Susceptibility standard is now available as an option for the KT-10, KT-10 Plus or the KT-10 S/C. The standard is manufactured from a suitable Mn-Zn Ferrite compacted with mudstone. Its purpose is to confirm that the KT-10, KT-10 Plus or the KT-10 S/C is operating properly or to recalibrate the unit.

Nominal susceptibility will vary between standards

Typically	34×10^{-3} SI
Diameter	145 mm
Height	70mm
Density	2.2g/ccm
Weight:	2.65kg

Specifications:

Sensitivity:	1×10^{-6} SI Units
Measurement range:	0.001×10^{-3} to 1999.99×10^{-3} SI Units Auto-Ranging
Operating frequency:	10 kHz
Measurement frequency:	20 times per second (in Scan mode, 5 readings averaged together and 4 readings /second stored
Display:	High Contrast LCD Graphic Display with 104 x 88 pixels
Memory:	Up to 3000 measurements or 2000 measurements with one minute of comments per reading
Control:	1 button with up / down function & pin for rough surfaces
Data Input/Output:	USB, Bluetooth with GPS link via Bluetooth
Power Supply:	2 AA Alkaline Batteries or 2 optional AA Rechargeable Batteries
Battery life:	Up to 4000 readings without voice recorder
Operating temperature:	-20 °C to 60 °C
Dimensions:	200mm x 57mm X 30mm
Coil Diameter:	65 mm with a 45 degree angle
Weight:	0.30 kg

Optional Upgrades:

– KT-10 to KT-10 Plus
– KT-10 Android Application
– KT-10 to KT-10 Plus with Android Application
– KT-10 to KT-10 S/C Magnetic Susceptibility/ Conductivity
– KT-10 to KT-10 Plus S/C Magnetic Susceptibility and Conductivity
– Calibration Pad