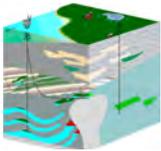


KMS web access box



KMS Technologies

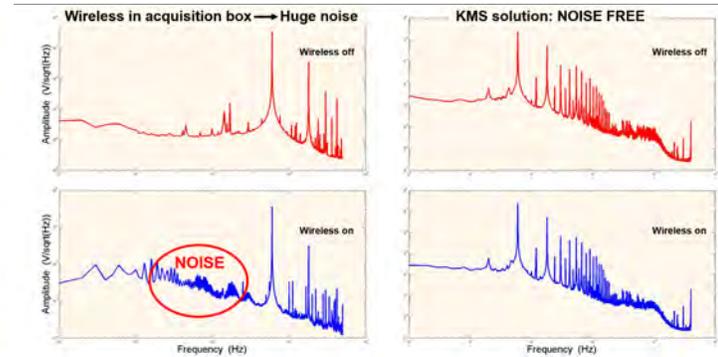
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Web access box



Web access box

Product overview

The KMS-820 connectivity can be enhanced by adding a micro-computer controller as shown below. It allows FULL real time data streaming through wireless or wired connection. For MT applications we use a short Wi-Fi connection to this box that generates **little to no noise** in the MT sensors. Cell phone modem uses up to G4 where available.

The KMS-820 acquires the data and writes files that are then accessed by the controller. The controller uses high level operating system and can control addition SD cards and hard disks in observatory mode. To simplify control of KMS-820 configuration and real-time data monitoring, we run a web server providing access to file system and share the control of the system. The KMS-820 will be accessible from anywhere.

Note: Web access box is also available for other system, for example LEMI-424.

Problem & Solution

Problem:

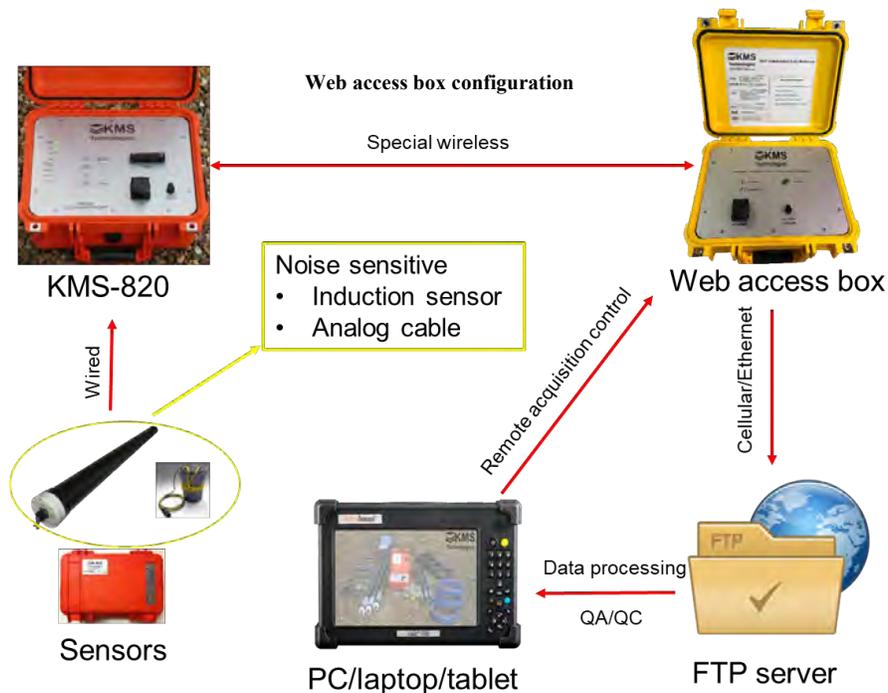
- Wi-Fi transmission during EM acquisition generates noise
- Lack of real-time control of acquisition

KMS solution: Web access box

Solution benefits:

- NOISE FREE data transfer during MT acquisition
- Real-time remote acquisition control
- Real-time remote data processing
- Lower operational cost

NOISE FREE web access box



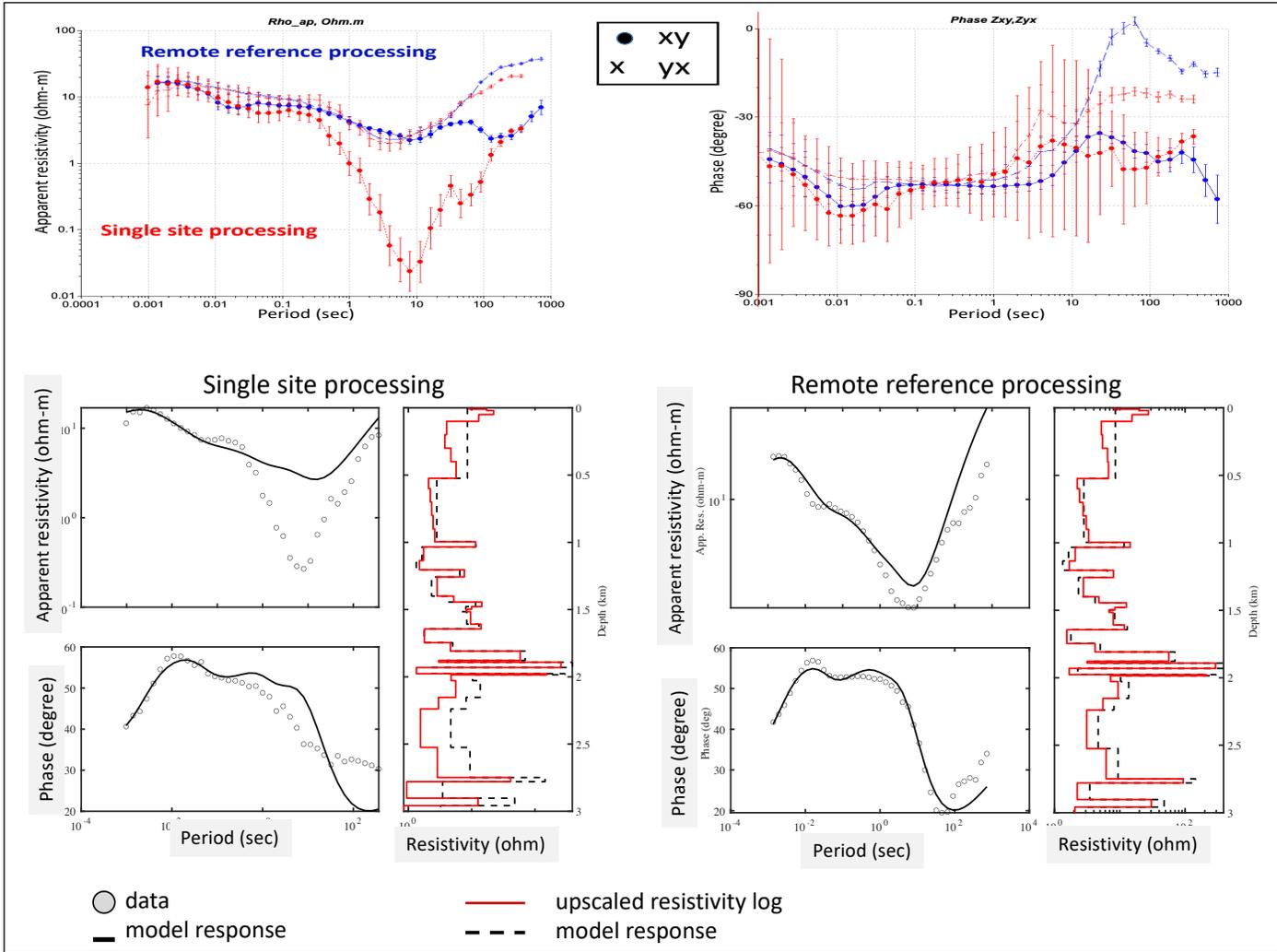
Addition of the micro-computer board to the DAU provides following advantages:

- Separating data acquisition of KMS-820 from networking data delivery (less acquisition interrupts, FIREWALL, faster delivery)
- Almost unlimited expansion of data storage (via multiple USB ports)
- Custom processing power for specific onsite processing
- Full implementation of the TCP/IP stack, support to most of the low-level communication protocol (UART, I2C, SPI, etc.)
- Ability to provide 100 Mbps throughput
- Optional support to external display unit (HDMI)

Product details

- Low power < 1 W
- SIM card: G4 compatible
- Bluetooth 4.1
- Ethernet 10/100 Mbps
- Wi-Fi 802.11 at 2.4 GHz
- Interfaces: HDMI, USB, Multiple hard disk interfaces
- SD card slot(s) for multiple SD cards
- CPU: 4 x ARM 1.2 GHz
- Access via basic web browser from any device

Application example: Remote Reference MT



Above example uses the web access box at the remote reference about 200 km away from the survey area. The data gets stream to the Cloud.

Top row shows the magnetotelluric data, apparent resistivity on the right and phase on the left. Note the dip in the apparent resistivity between 1 to 10 seconds, which is most likely caused by nearby industrial noise source. This is completely gone in the blue curves. Further the error bars are significantly reduced.

How do we check if this is correct? In this area we know the resistivity from log. The upscaled resistivity log is display in red next to the inversion results in the row below. On the right the inversion clear reflects the log very closely.

Advantage of Cloud access box: **NOISE FREE data and data in near real time**