KMS Technologies - KJT Enterprises Inc.
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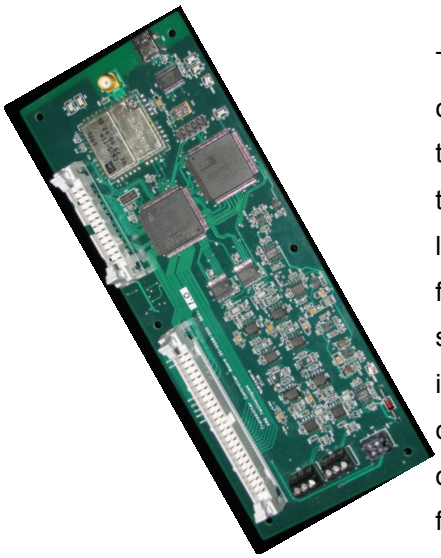
Acquisition Transmitter and Receiver Controller

KMS-810



The KMS-810 acquisition transmitter and receiver controller is developed to provide GPS synchronized timing signals to control the KMS-500 marine transmitter. Two 10-bit single ended and two 24/32-bit, low noise, low drifting differential channels are provided for data acquisition. The two 24/32-bit channels are sampled simultaneously with GPS synchronization. Data is saved via a mini-USB port to a windows based computer system. Software is provided which allows data recording and real-time waveform monitoring. Data format can be customized. If more data channels are required, multiple units can be used since all units are GPS synchronized. The KMS-810 is a cost effective system that delivers high quality acquisition of data.

Product Applications

Land EM applications:

- EM transmitter synchronization and monitoring
- System response recording (time domain and induced polarization)
- EM survey in array configuration

Marine EM applications:

- Transition zone transmitter and monitor
- Source controller and environmental monitor (current and one field component)

Land seismic applications:

- Seismic survey of subsurface structure for hydrocarbon, minerals and geothermal energy exploration
- Passive microseismic monitoring for regional and local seismic activities

General lab measurement applications:

- Coil calibrations
- Electrode long term stability study

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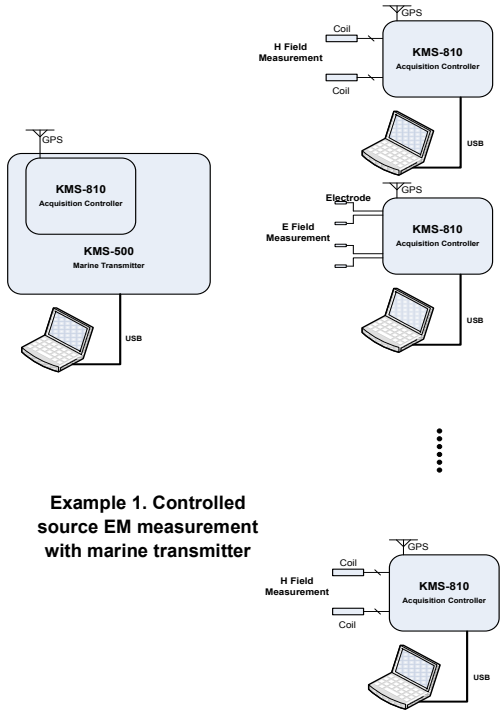
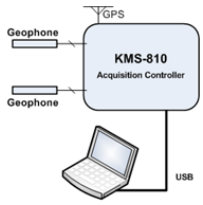
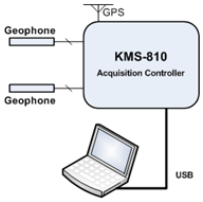
Product Applications

In example 1, KMS-810 is included in the marine transmitter, KMS-500, to provide GPS synchronized signals driving the transmitter and record current in time domain. Multiple KMS-810 acquisition controllers are placed at different survey sites to record E (electrical) field and H (magnetic) field information using two low noise, low drift 24/32-bit channels. Data is streamed to the computer via a USB cable for recording and real-time waveforms monitoring.

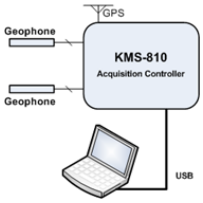


Example 1. Controlled source EM measurement with marine transmitter





In example 2, multiple acquisition controllers can be distributed around the survey site, such as mountain, hydrocarbon, and geothermal reservoir. Geophones or accelerometers can be attached to the KMS-810 24/32-bit channels. These channels utilizes low noise, zero-drifting circuits which is beneficial to microseismic monitoring by eliminating low frequency DC drifting, due to amplifier flicker noise, which may falsely indicate low frequency passive seismic activities



Example 2. Passive microseismic monitoring with distributed acquisition controllers

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Acquisition and Monitoring Software

The acquisition software is windows based. It is used to send commands to control the acquisition parameters, display the real time waveforms and save the data to hard drive. Figures 1 and 2 show the PC software working with the acquisition system to acquire signals and monitor the real time waveforms and system behavior. The interface and saved data format can be customized according to customer needs.

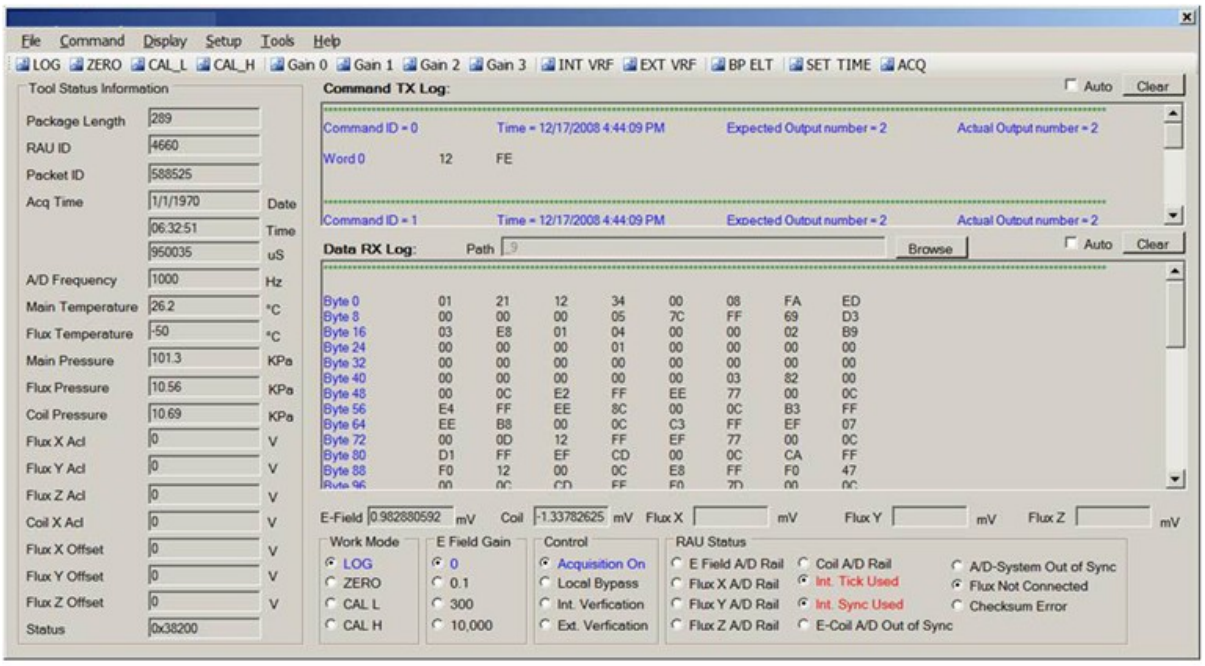

Figure 1. KMS Acquisition and Monitoring software control and status main screen

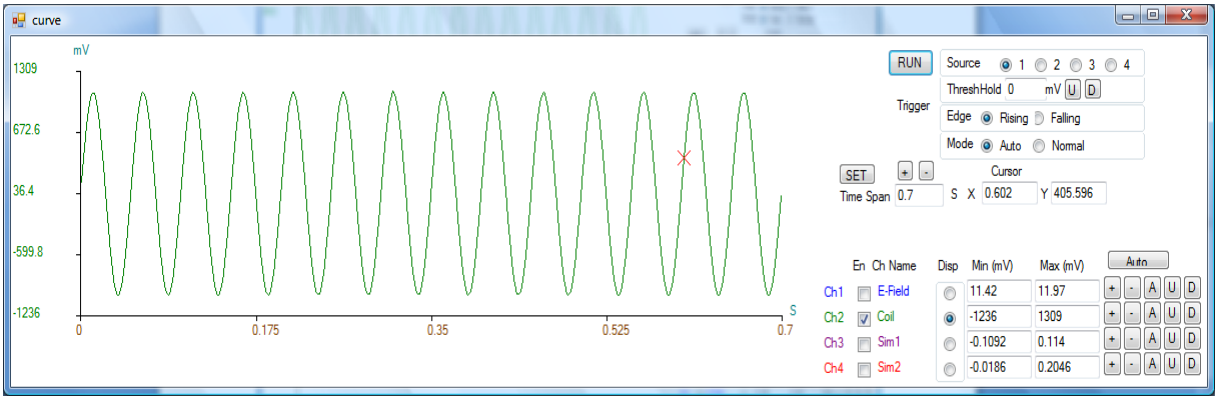

Figure 2. KMS Acquisition and Monitoring software real time waveform display

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Product Specifications

Number of Channels	*2*
A/D resolution	*24 or 32 bit*
Signal bandwidth	*DC to 400Hz*
Sampling rate	*Up to 1KHz*
Input impedance	*10M Ohm, or adjust to specific application*
Input signal level	*-2.5V ~ +2.5V*
Gain	*Up to 10,000, adjust to specific application,*
Timing Control	*GPS synchronized*
Data saving and retrieving	*PC or Handheld Unit*
Data monitoring	*USB*
On-board Temperature measurement	*Yes*
Power supply	*External +5Vdc*
Temperature rating	-30°C to 70°C
Additional interface	*Optional digital interface to accommodate additional customer timing and digital interface requirements*

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