



# Operating a K10 Surface Unit

User Guide

April 09, 2007

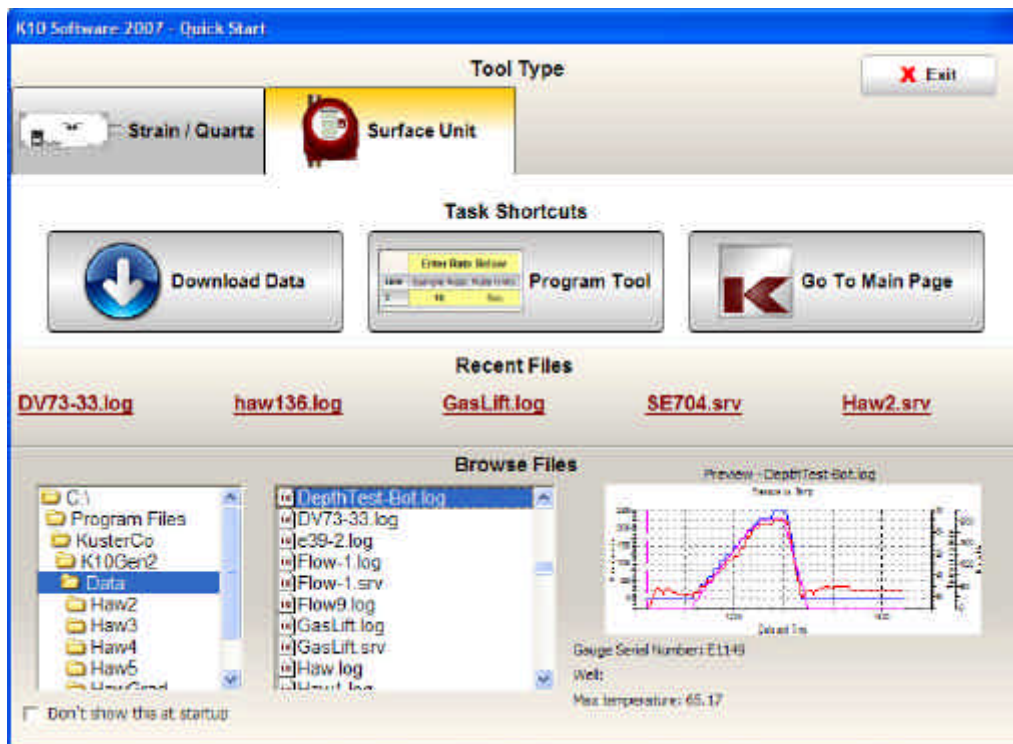
## Table of Contents

### Creating a Static Gradient Survey

1. Setting the operating mode on the Surface Unit
2. Setting the operating mode on the software
3. Programming a Surface Unit for operation at a fixed sample rate
4. Programming a Surface Unit for operation at multiple sample rates
5. Downloading data
6. Adding Events
7. Adding Header data
8. Exporting ASCII data

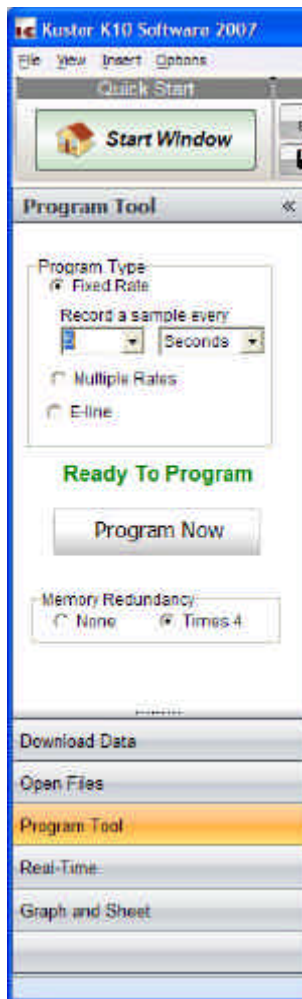
## Operating a K10 Surface Unit

- I. Operating mode on the Surface Unit. The unit has a switch to determine whether the unit will operate in 'communication mode' so it can be programmed and downloaded and a 'memory mode' to where samples are recorded (and displayed) for later retrieval.
  - a. Set the switch to communication mode and attach the USB cable to the PC.
- II. Starting software in 'Surface Unit mode'
  1. Select the 'Surface Unit' tab as pictured below.
  2. Click on "Go To Main Page" to enter software in 'Surface Unit mode' or click on one of the shortcuts.

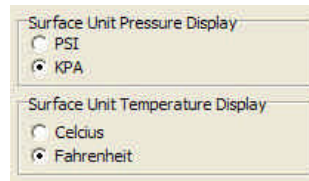


Once in 'Surface Unit mode' everything in the software will be tailored for operating a surface unit. You can access the "Quick Start" page anytime by clicking the "Start Window" button on the main page. You can also set operation to 'Surface unit' mode by checking 'Surface Unit' from the Options menu.

### III. Programming a Surface Unit for operation at a fixed sample rate



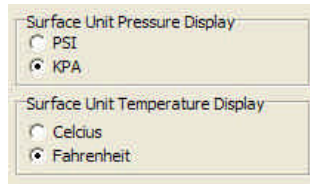
1. If running for the first time go to the Options menu on the top of the main page and set the units you want the Surface Unit to use during operation. The software will remember the units in the future.



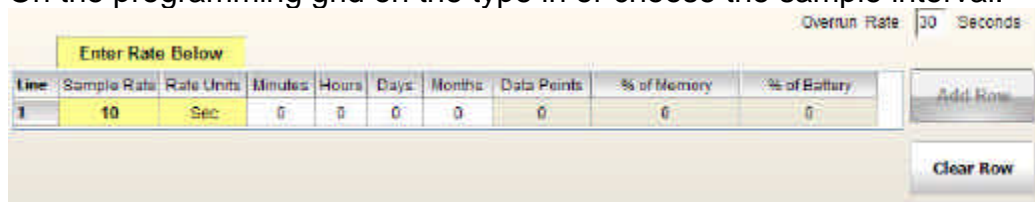
2. Click on the "Program Tool" button in the Navigation Bar on the left of the software.
3. If you wish to run the survey at the same sample rate throughout, choose the "Fixed Rate" radio button.
4. Type in or choose the sample interval. In the case of the picture on the left the gauge will record a sample to memory once every 5 seconds.
5. Click "Program Now" and wait for the software to finish the programming process and prompt you to disconnects the tool and switch to 'memory mode' when you are ready to start the survey.

#### IV. Programming a Surface Unit for operation at multiple sample rates

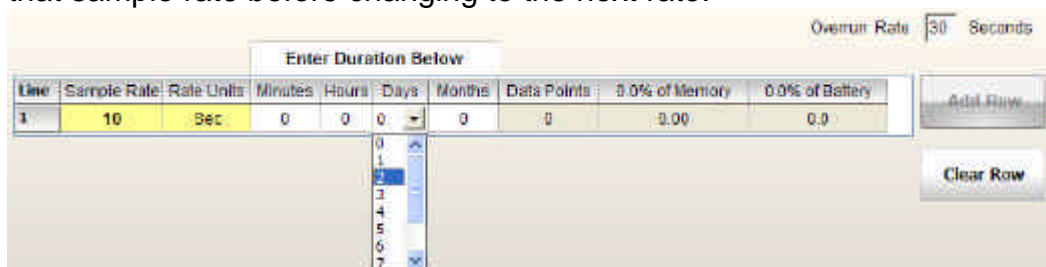
1. If running for the first time go to the Options menu on the top of the main page and set the units you want the Surface Unit to use during operation. The software will remember the units in the future.



2. Click on the "Program Tool" button in the Navigation Bar on the left of the software.
3. Click on 'Multiple Rates' from the panel on the left.
4. On the programming grid on the type in or choose the sample interval.

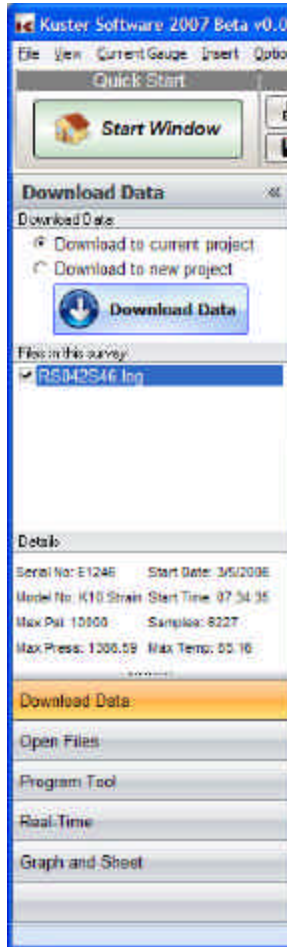


5. Click on a cell in the duration column and choose a duration from the drop down menu. The duration determines how long the unit will run in that sample rate before changing to the next rate.



6. Click "Add Row" and repeat steps 4 and 5. You can have up to 33 different sample rates and durations.
7. Click "Program Now" and wait for the software to finish the programming process and prompt you to disconnects the tool and switch to 'memory mode' when you are ready to start the survey.

## V. Downloading data



1. Make sure the gauge is attached to the interface box and the interface box is attached to the computer's USB port. And the unit's switch is in 'communication mode' see step I.
2. Start the K10 2007 Software in 'Surface Unit mode' see step II.
3. Click on the "Download Data" button in the Navigation Bar on the left of the software.
4. Click "Download Data" and when prompted provide a filename to save the data to and wait for the download to complete and the graph to appear on screen.
5. If you ran two gauges in tandem, please disconnect the first gauge and attach the second gauge.
  - a. Under the "Download Data" tab choose "Download to current project"
  - b. Download the data, after downloading the data will automatically be combined with the data from the first gauge.
  - c. You can click on the "Save" button and save the entire project to a ".srv" file which will archive data from both tools.

## VI. Adding Events

Events screenshot

Date	Time	Event Description
3/05/2006	02:34:35 AM	Start Gauge
3/05/2006	07:37:13 AM	Gradient stop at 0
3/05/2006	10:49:05 AM	Run in hole
3/05/2006	11:15:20 AM	Gradient stop at 100
3/05/2006	11:17:35 AM	Run in hole
3/05/2006	11:32:20 AM	Gradient stop at 200
3/05/2006	11:36:40 AM	Run in hole
3/05/2006	11:52:20 AM	Gradient stop at 400
3/05/2006	11:57:40 AM	Run in hole
3/05/2006	12:05:15 PM	Gradient stop at 500
3/05/2006	12:14:40 PM	Run in hole

- Go to the “Current Gauge” menu on the top of the screen and select the gauge you want to edit the events of.
- Under the “Current Gauge” menu click on “File Data”
- Go to the “Events” tab as seen on the screenshot above.
- You can modify the dates and times or event descriptions by click on the appropriate cells.
- If you need to insert or delete a row, right click on the appropriate row and click on the menu option.
- When you are finished click on “Save to Current File”
- Repeat for the second gauge if needed.

## VII. Adding Header Data

Header Data screenshot

File Data for: R5042546.log - Serial No: E1246

File Summary | Header Data | Events | Markers

Well Location  
Zone  
Well Name  
Field  
Area  
Pool

Type of Test  
Well Fluid Status  
Well Mode Status  
Well Type Status  
Well Type Indicator  
Formation

Prod. Int.(KB) Top Meters  
Well License Number  
Prod. Int.(KB) Bottom  
KB Elev.  
O.H. Diam  
Prod. Thru  
PBD

GRD. Elev.  
CF Elev.  
Casing ID  
Casing OD  
Pool Datum  
Casing Liner Diameter  
Tubing OD  
Tubing ID

Tubing Depth  
Initial Casing Pressure  
Final Casing Pressure  
Run Depth Bottom (KB)

Top Gauge On  
Bottom Gauge On  
On Bottom  
Off Bottom

Total Depth  
Initial Tubing Pressure  
Final Tubing Pressure  
Shut In  
Run Depth Top (KB)

Notes

Save

- Go to the “Current Gauge” menu on the top of the screen and select the gauge you want to edit the events of.
- Under the “Current Gauge” menu click on “File Data”
- Go to the “Header Data” tab as seen on the screenshot above.
- Fill in all the fields you need
- When you are finished click on “Save to Current File”
- Repeat for the second gauge if needed.

## VIII. Exporting data to ASCII

Export To Ascii screenshot

Export Ascii

Export All Samples  
 Auto Zero  
 Merge Job Log  
 Omit Tool Info  
 Include Header  
 Use a .csv extension  
 Separate date and time with comma  
 Manually Name File

Samples  Real Time

Sample Range:  
Beginning Sample = 1 Ending Sample = 90

Number of Samples: 90

Export Every 1 st Line.

Channels To Export  
 Date  Time  Delta Time  Pressure  Temperature  Pressure 2  
 Depth  Comments  Flow

File Type txt Export

In this page you can choose a range of samples to export and filter out samples and choose what data you want exported.

Click on Export and the software will automatically generate and launch an ASCII file.