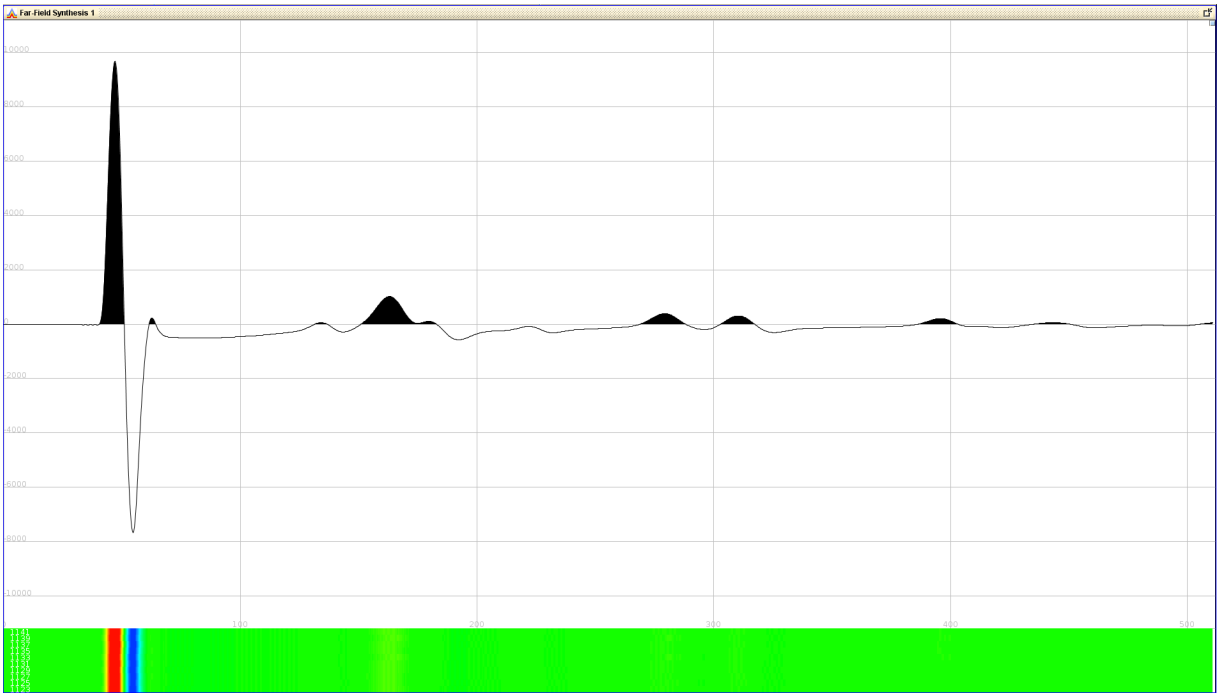
SEAMAP
A MIND Technology Business

SEAMAP FAR FIELD CALCULATION

FAR FIELD SIGNATURE CALCULATION FOR A SEISMIC SOURCE FROM NEAR FIELD HYDROPHONE DATA

Seamap's Far Field Synthesis software, incorporated in to the GunLink System, is capable of producing shot by shot far field signatures for source monitoring and data deconvolution.



- Assured Data Quality:
  Shot by shot production of far field signature for source monitoring and data deconvolution.
- Survey Repeatability:
  Source Signature differences for 4D acquisition can be measured and removed from processed data.
- Near Field Phone Monitoring:
  Using the high resolution near field phone data recorded by the GunLink System.
- Signature Generation:
  Synthesized far field can be generated for the vertical as well as any spatial coordinate under the source.
- User Interface:
  Incorporated in to the industry leading GunLink User Interface allowing simple operator monitoring and control as well as indicating deterioration of source performance.

The program algorithm makes use of the Notional Source Technique whereby the Near Field Hydrophone (NFH) data and knowledge of the geometry and velocity of the array components are used to produce 'Notional Sources'. A Notional Source is the NFH signature with the sound of neighbouring guns removed. Once the Notional Sources have been generated a synthesized far field signature can be produced for any spatial coordinate under the source. In this way individual signatures can be generated for every CDP in a survey allowing the seismic data processor to 'deconvolute' the recorded data with the dynamically changing sound generated for every shot instead of with a static library signature.

The far field, notional sources and near field signatures can be recorded on the GunLink System or may be output to the recording system.

The provision of the far field signature in real time allows the seismic crew to monitor the total output of the source regardless of changing offsets, array configurations or gun failures and thus provides enhanced quality control of the data acquired. In addition, the differences induced by non identical source hardware and configurations on a survey to survey basis can be genuinely removed, essential to maintaining the value of 4D data.

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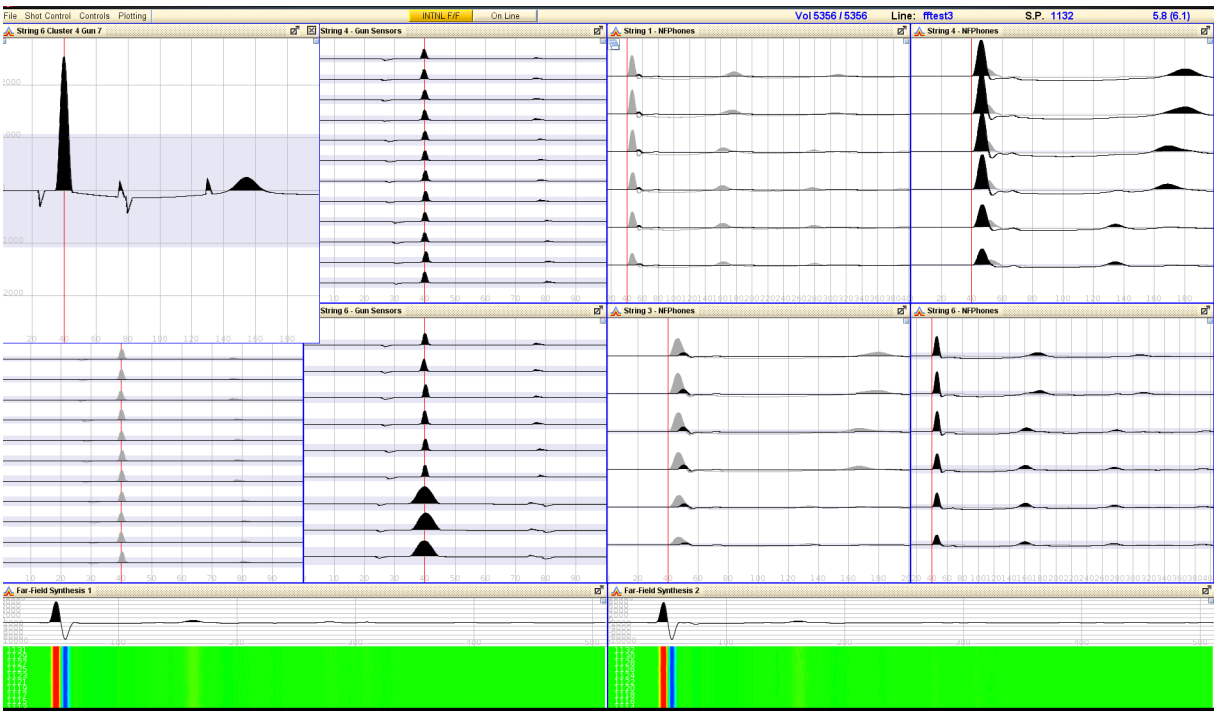
Statistical Presentation of Data



Realtime Display

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