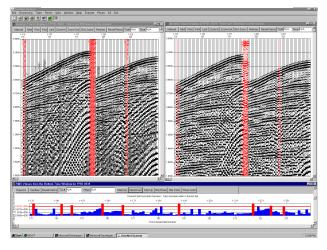


# Introducing SeisNet Version 10 - Windows 7 Seismic Data Quality Assurance

**Featuring:** 

- Universal recording system compatibility
- SEG-D & Y Data Read from network disk
- Data display & plotting (V80 + Network)
- QC attribute analysis & display
- Bad Trace Detection & Highlight
- Vertical/Diversity Stacking & Noise Edit
- Correlation Before & After Stack
- SEG-D or SEG-Y image to disk output
- SPS QC Error Detection & Correction
- Windows 7 (32 & 64 bit) compatibility

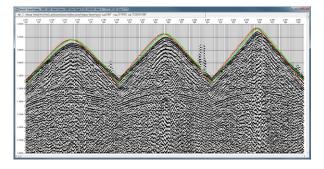
Raw/Filtered Data & RMS QC + Bad Trace Detection



SeisNet's attribute analysis, bad trace detection and display capabilities provide data quality assurance for both real-time and post-recording applications. Display image GIF files created by SeisNet may be distributed and viewed using the SeisNet QC Viewer utility, providing a convenient cost effective, environment friendly alternative to paper plots.

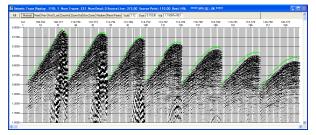


Seismic Support Technology, Inc. 1115 Augusta Drive, #24 Houston, Texas 77057, USA Phone: 713-266-5075 Email: info@seismicsupport.com Website: www.seismicsupport.com SPS Error Detection, Correction + Logging



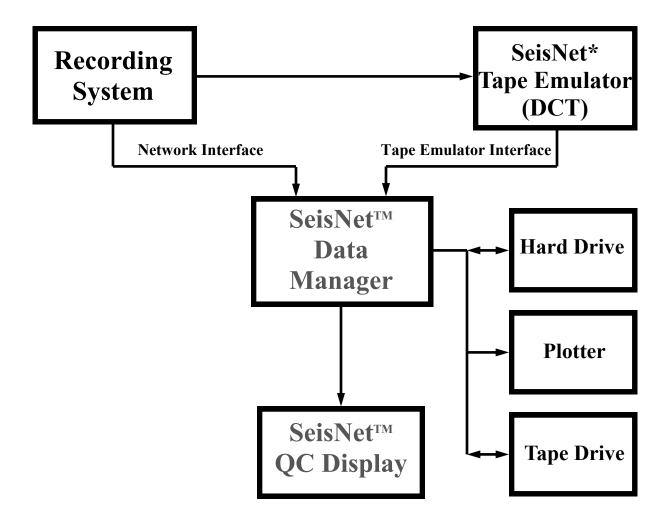
### SPS QC

SeisNet's SPS QC module compares the geometry information contained in the SPS dataset with data in the seismic records, creates an error log and corrected X file for efficient data processing. A predicted first arrival display also confirms accurate system deployment.



V80 + Network plotting capabilities and the extensive range of SeisNet's data processing modules enable optimum quality assurance and management of seismic data.

SeisNet is currently in operation worldwide and is the system of choice for a number of major seismic contractors and recording system manufacturers. SeisNet also offers a cost effective alternative to Sercel's eSQC-Pro.



# The SeisNet<sup>™</sup> System

Input Options Tape Drive Emulator (40 Mbytes/Sec)\* Read SEG-D or SEG-Y from network. Processing Shot Record Display & Plot + Filtering Amplitude Attribute Analysis/Display Single Trace Gather Display & Plot Vertical/Diversity Stack + Noise Edit Correlation - Before & After Stack VSP Trace Gather Display SPS QC-Error Detection & Correction Bad Trace Detection & Highlight Marine QC Attribute Database System 4/Scorpion to SEG-D Tape GSR SEG-D to SEG-Y

\*Tape Drive Emulator – Windows XP only
\*NTRS2 is a trademark of Hydroscience Technologies, Inc.
\*Focus is a trademark of Paradigm Geophysical
\*GeoRes, GSR and DAS are trademarks of OYO Geospace, Inc.
\*ProMAX is a trademark of Landmark Graphics Corp.
\*I/O 2, Image, RSR, MSX, System Four, Scorpion and ARAM
Aries are trademarks of Ion, Inc.
\*388/408/428, SEAL, Syntrak & eSQC-Pro - trademarks of Sercel.
\*SeisNet is a trademark of Seismic Support Technology, Inc.

#### Plotting

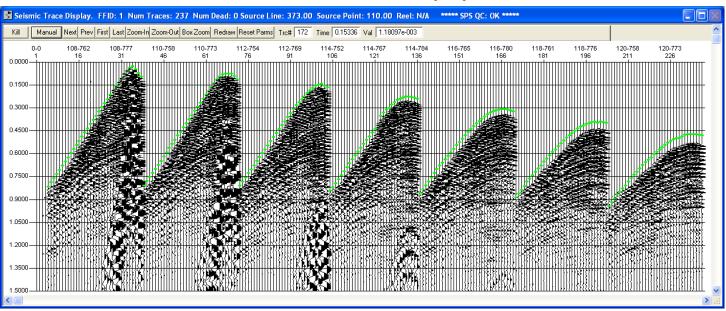
V80 Compatible, OYO 612/622/624, HP LaserJet, Isys V12/24 - including V12 network interface. Display plot GIF file capture & viewer.

Tape Copy - Dual/Quad Write 3480/3490/3590/3592, DLT, LTO, + Hard Disk Archive.

System Compatibility Compatible with all major recording systems including: Hydroscience NTRS2, Sercel 388/408/428/SEAL/ Syntrak, Ion I/O-2/Image/RSR/MSX/ System Four/Scorpion/ARAM-Aries, Fairfield BOX/ZNodal, Geospace GSR/ GeoRes/DAS, Wireless Seismic RT System 2.

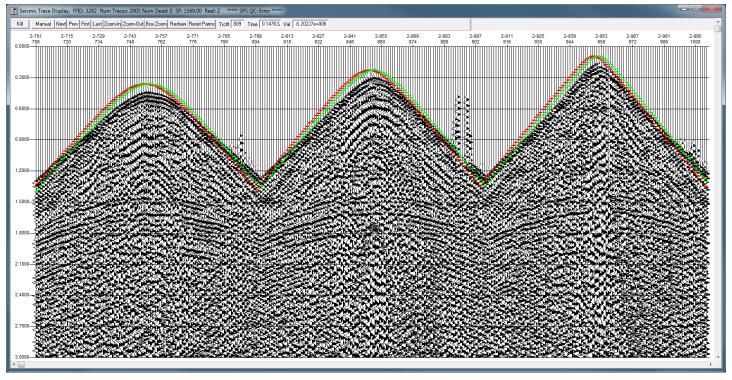
#### Software

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## **SPS QC Error Free Display**

**SPS QC Error Display** 



### SPS QC Error Log File

Page 1

| <u>File E</u> dit F <u>o</u> rmat <u>V</u> iew <u>H</u> elp |              |                 |                 |           |           |  |
|---|--------------|-----------------|-----------------|-----------|-----------|--|
| OG FILE FROM THE KSPS                                       | QC> MODULE   |                 |                 |           |           |  |
| reation Date: 01\06\2                                       | 012 14:57:00 |                 |                 |           |           |  |
| 01\06\2012 14:57:00 -                                       | FFID: 003282 | Source Point:   | 5643:1569.00    |           |           |  |
| Trace Counts M  |              |                 |                 |           |           |  |
| Error 000001:   | 40 SPS Trac  | e(s) not found  | in Seismic red  | cord.     |           |  |
| Error 000002:   | 1521:5536    | 1521:5537       | 1526:5536       | 1526:5537 | 1531:5536 |  |
| Error 000003:   | 1531:5537    | 1536:5536       | 1536:5537       | 1541:5536 | 1541:5537 |  |
| Error 000004:   | 1546:5536    | 1546:5537       | 1551:5536       | 1551:5537 | 1556:5536 |  |
| Error 000005:   | 1556:5537    | 1561:5536       | 1561:5537       | 1566:5536 | 1566:5537 |  |
| Error 000006:   | 1571:5536    | 1571:5537       | 1576:5536       | 1576:5537 | 1581:5536 |  |
| Error 000007:   | 1581:5537    | 1586:5536       | 1586:5537       | 1591:5536 | 1591:5537 |  |
| Error 000008:   | 1596:5536    | 1596:5537       | 1601:5536       | 1601:5537 | 1606:5536 |  |
| Error 000009:   | 1606:5537    | 1611:5536       | 1611:5537       | 1616:5536 | 1616:5537 |  |
| Error 000010:   | 40 Seismic   | Trace(s) not fo | ound in SPS rea | cord.     |           |  |
| Error 000011:   | 1521:5436    | 1521:5437       | 1526:5436       | 1526:5437 | 1531:5436 |  |
| Error 000012:   | 1531:5437    | 1536:5436       | 1536:5437       | 1541:5436 | 1541:5437 |  |
| Error 000013:   | 1546:5436    | 1546:5437       | 1551:5436       | 1551:5437 | 1556:5436 |  |
| Error 000014:   | 1556:5437    | 1561:5436       | 1561:5437       | 1566:5436 | 1566:5437 |  |
| Error 000015:   | 1571:5436    | 1571:5437       | 1576:5436       | 1576:5437 | 1581:5436 |  |
| Error 000016:   | 1581:5437    | 1586:5436       | 1586:5437       | 1591:5436 | 1591:5437 |  |
| Error 000017:   | 1596:5436    | 1596:5437       | 1601:5436       | 1601:5437 | 1606:5436 |  |
| Error 000018:   | 1606:5437    | 1611:5436       | 1611:5437       | 1616:5436 | 1616:5437 |  |
|   |              |                 |                 |           |           |  |
|   |              |                 |                 |           |           |  |

**SPS QC Flow** 

| SN SPS_QC.FLW (Ver 10.007)  |  |                |                 |                       |
|---|--|----------------|-----------------|-----------------------|
| File Processing Tape Parms View Window Help Execute Par                     | use Kill Exit  |                |                 |                       |
|   |  |                |                 |                       |
| SPS_QC.FLW  |  |                |                 |                       |
|   |  |                |                 |                       |
|   |  |                |                 |                       |
| Read Raw  |  |                |                 |                       |
| P Data From H   |  |                |                 |                       |
| Hard Disk   |  |                |                 |                       |
|   |  |                |                 |                       |
|   |  |                |                 |                       |
| D SPS II  | Parameters for the SPS QC Module   |                |                 |                       |
| $\mathbf{P} = \mathbf{Q} \mathbf{C} \mathbf{H}$                             | SPS File Type  |                |                 |                       |
|   | Standard SPS Rev 0   |                |                 |                       |
|   | Enter the name of the SPS SOURCE File (i.e. ".S" or ".SPS" file extension) D:\My Documents\SST\SPS_QCS\Crescent_1-4east.sps      |                |                 | Browse                |
|   |  |                |                 | Browse                |
| P <sup>Display</sup><br>Seismic H   | Enter the name of the SPS RECEIVER File (i.e. ".R" or ".RPS" file extension)<br>D:\My Documents\SST\SPS_QCS\Crescent_1-4east.rps |                |                 | Browse                |
| Traces  | Enter the name of the SPS RELATION File (i.e. "X" or "XPS" file extension)   |                |                 |                       |
|   | D:\My Documents\SST\SPS_QCS\Crescent_1-4east.xps   |                |                 | Browse                |
|   | Enter the velocity (feet/sec or meters/sec) used to calculate First Breaks   |                |                 |                       |
|   | 14000  |                |                 |                       |
|   | Enter the name of the SPS QC LOG File<br>Not Defined   |                |                 | P                     |
|   | RELATION File Type   |                |                 | Browse                |
|   | Standard SPS Rev 0   |                |                 |                       |
|   | Enter the name of the SPS QC created RELATION File   |                |                 |                       |
|   | Not Defined  |                |                 | Browse                |
|   | OK Cancel  |                |                 |                       |
|   |  |                |                 |                       |
|   |  |                |                 |                       |
|   |  |                |                 |                       |
|   |  |                |                 |                       |
|   |  |                |                 |                       |
|   |  |                |                 |                       |
| Tells the SeisNet system about the type of SPS file. Select a type from the | e combo box list.  |                |                 |                       |
|   | SN SP5_QC.FLW (Ver 1   | Search Desktop | P nem           | 🔄 💽 🔍 🖾 🔎 💁 🔶 2:53 PM |
|   |  |                | P nero<br>@acan |                       |

Page 2

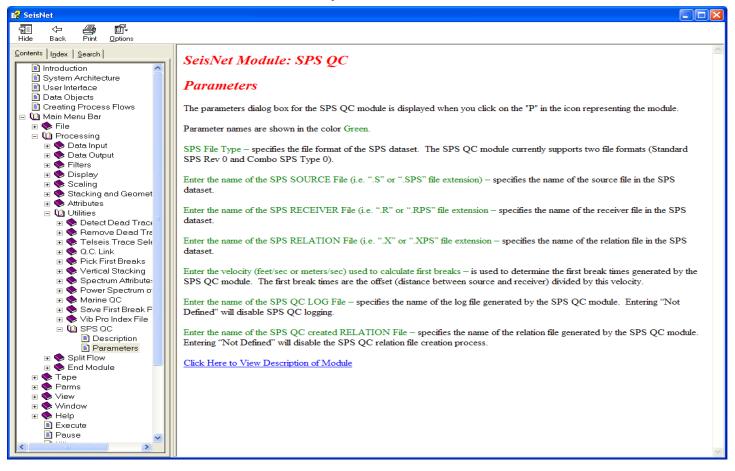
# SPS QC Help File

| 🛃 SeisNet  |   |
|--|---|
| Hide Back Print <u>O</u> ptions  |   |
| Contents       Index       Search         Introduction       System Architecture         System Architecture       Data Objects         Creating Process Flows       Main Menu Bar         Main Menu Bar       ← File         Processing       ← Data Output         ● Data Output       ● Filters         ● Display       ● Scaling | SeisNet Module: SPS QC The SPS QC module is used compare the information contained in the SPS dataset with the information contained in the actual seismic record. Source position, receiver position and relation information is taken from the SPS dataset to make this comparison. To learn more about this module select one of the following: Description Parameters |

# **SPS QC Help File - Description**

| 💕 SeisNet   |  |   |
|---|--|---|
| 🖅 🗇 🎒 🗗<br>Hide Back Print Options  |  |   |
| Contents Index Search   | SeisNet Module: SPS QC   | ^ |
| <ul> <li>□ 1 Main Menu Bar</li> <li>■ ◆ File</li> <li>□ 10 Processing</li> </ul>  | Description  |   |
| <ul> <li>♥ Data Input</li> <li>♥ Data Output</li> <li>♥ Filters</li> </ul>  | The SPS QC module is used to compare the information contained in the SPS dataset with the information contained in the actual seismic record. Source position, receiver position and relation information is taken from the SPS dataset to make this comparison.  |   |
| <ul> <li>Display</li> <li>Scaling</li> <li>Stacking and Geomet</li> <li>Attributes</li> <li>Utilities</li> <li>Detect Dead Trace</li> <li>Remove Dead Trace</li> <li>Remove Dead Trace</li> </ul> | Source point coordinates are retrieved from the SPS dataset using the source point line name and the source point number from the seismic record headers. Receiver point coordinates are retrieved from the SPS dataset using the receiver line names and receiver station numbers from the seismic record headers. A theoretical first break time is calculated for each data trace in the seismic record. The theoretical first break time is the distance between source and receiver divided by the velocity. The velocity used is a user entered parameter. If a display module is connected to the output of the SPS QC module the theoretical first break times will be display in green. | e |
| <ul> <li>Telseis Trace Sele</li> <li>Q.C. Link</li> <li>Pick First Breaks</li> <li>Vertical Stacking</li> <li>Spectrum Attribute:</li> </ul>  | The relation file of the SPS dataset is used to calculate a second set of theoretical first break times. The relation record for the shot point is decoded and a model of the shot point is built. The relation record describes what receiver line names and receiver station numbers should be included in the shot point. Theoretical first break times are calculated for each receiver in the model. If a display module is connected to the output of the SPS QC module the second set of theoretical first break times will be displayed in red.  |   |
|   | The SPS QC module will detect and log (if logging is enabled) any of the following problems:   |   |
|   | 1. Shot point coordinates not found in the SPS dataset. If the shot point coordinates cannot be found, the first break times are not calculated and an error is generated.   |   |
| <ul> <li>B Parameters</li> <li>              ◆ Split Flow          </li> <li>             ◆ End Module         </li> </ul>  | <ol> <li>Receiver coordinates not found in the SPS dataset. First break times are not calculated for these receivers and errors are<br/>generated.</li> </ol>  |   |
|   | 3. The content of the seismic record and the content of the shot point model are compared and errors if any are generated.   |   |
|   | The SPS QC module will also allow you to generate an output relation file based on the actual seismic record.  |   |
| ⊕ Help     Execute  | Documentation for the SPS Standard Rev. 0 format can be obtained from the SEG at:  |   |
| Pause     Kill     Exit     Toolbar   | http://www.seg.org/publications/tech-stand/seg_sps_rev0.pdf  |   |
| E Status Bar  | Click Here for an Explanation of the Parameters  | ~ |

### **SPS QC Help File - Parameters**



#### **Key SeisNet SPS QC Features**

- Standard SPS Rev.0, Rev.2.1 & Combo SPS Type 0 support
- SPS QC Log File creation Error logging
- SPS QC Relation File generation From Seismic Record
- Predicted first break display SPS Data File (Red) & Seismic Record (Green)
- Cost effective alternative to eSQC-Pro\*

#### \*eSQC-Pro is a trademark of Sercel

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