

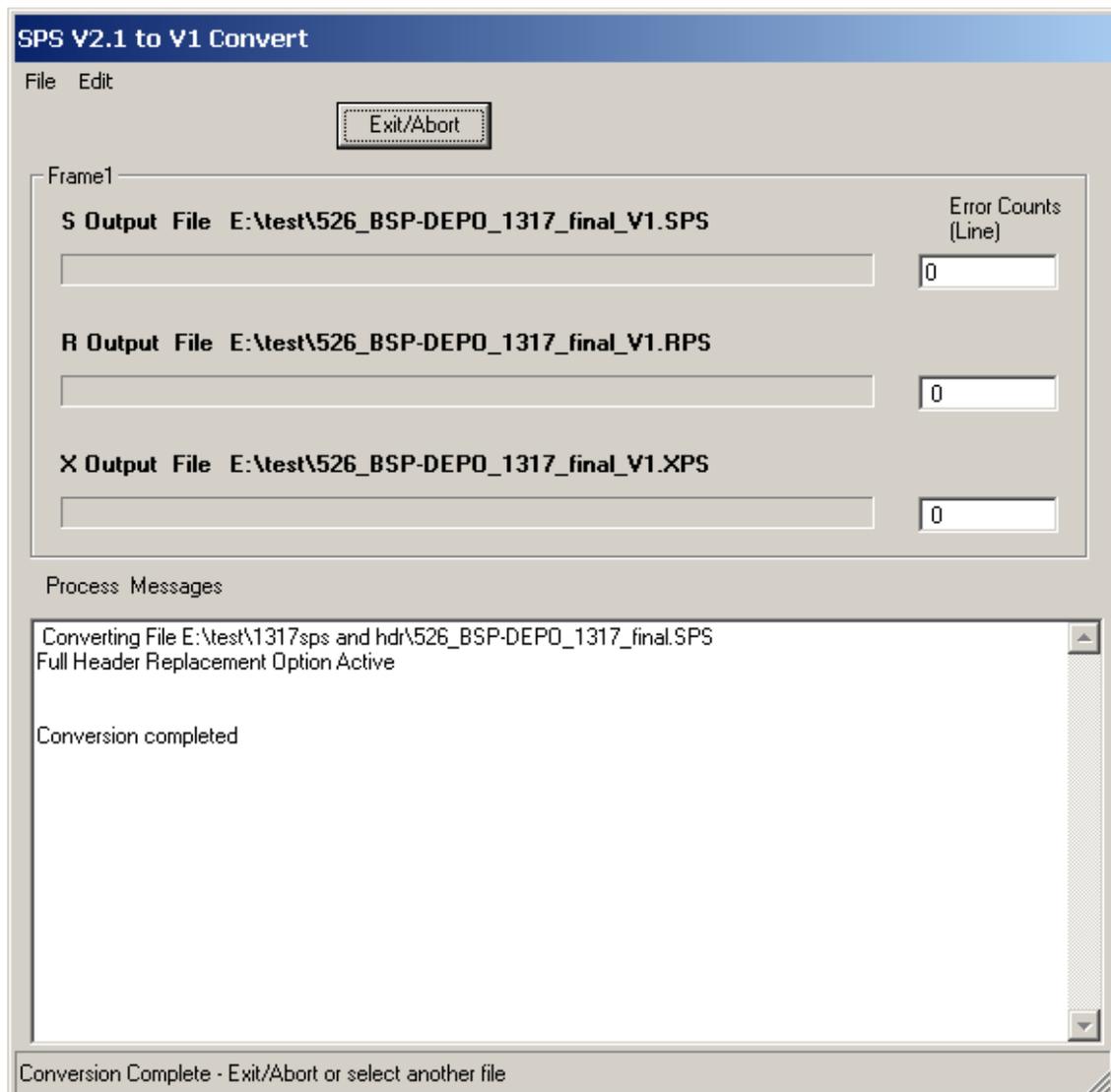
# RPS

SPS V2.1 to V1 Util

## RPS Convert SPS V2.1 (2006) to SPS V1 (1990) Utility

This utility will convert an SPS Version 2.1 format file (2006) to an SPS V1 (1990) format file. There is no license required to run this utility.

It was written to facilitate loading SPS data into RPS Vega and Regulus programs until they are updated to correctly handle V2.1.



Main Screen

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## SPS V2.1 to V1 Util

In normal usage the utility will be used to convert the V2.1 format files to V1 format. The V1 files output will be then loaded into Vega or Regulus for either checking the format or for coordinate mapping and binning functions.

It is not intended that the V1 files produced be used as final production versions, however given adequate care they could be. Its main use is during QC and binning operations with Vega.

### ***Caveats:***

The Utility will work provided the actual Source Point and Receiver point numbering in the V2.1 format file stays within the 9999 V1 limit. For most surveys this is still the norm. The FFID recorded in the X file should also stay below 9999, however if the V1 file is used only for checking purposes if the FFID exceeds 9999 it will be truncated and will not effect the checking. The V1 generated file will not be suitable for Seismic data merge purposes. Warnings are issued if any field values exceed the V1 limits.

For SPSv2 format differences see the SPS V2.1 format document included with this utility installation.

V2.1 was implemented to handle very large 3D surveys with Point Numbers or Segd File Numbers that exceed the original V1 9999 limit.

As there were only two minor changes to the V2.1 Header format both Regulus and Vega can be used to check 2.1 Headers without change or by the addition of one entry in the SPSFormat.txt file to define the H021 record format. The SPSFormat.txt file is identical in both Vega and Regulus and can be found in the main program folder of each software utility. Contact [glanvilleg@rpsgroup.com](mailto:glanvilleg@rpsgroup.com) for an updated copy of SPSformat.txt.

## **Changes in V2.1 format (2006) from V1(1990):**

To maintain the 80 column format limits and all the needed information this required changing the defined fields and making some tradeoffs in some stored values.

The Line Name field was reduced and most field start/end columns, other than the original Position fields were modified (extended) to accommodate the longer digits.

The convert utility remaps the V2 values to the V1 locations.

**Caution:** Most 3D surveys still stay within the V1 limits, but it is possible that even some small surveys may exceed the 9999 file number limit.

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The Sercel 408/428 system still outputs the V1 format SPS but can also exceed the 9999 FFID limit without issuing an Error. The FFID in the 428 produced SPS file will then stick at 9999. The 428 produced SPS may also only have a limited and invalid SPS header that cannot be read directly into Vega.

If a field width exceeds the V1 field it will be truncated to the V1 length and logged. The utility will issue warnings if any of the fields do exceed the V1 limits.

As the X record is the only record that has the FFID logged the truncation of the FFID number will not cause problems in Vega as it is ignored, but would cause a problem during a merge with the seismic data. It is possible to prevent this by requesting the recording crew to keep recorded FFID numbers below the 9999 limit, resetting the first FFID to 1 when needed. This is normally acceptable when the FFID's will be on different Tapes or disk folders.

Source point and Receiver points that exceed the field widths in V1 will cause problems in Vega and in a seismic merge operation. Currently there is no way to properly convert files that exceed the V1 limits.

## **Running the Utility the first time.**

Start the SPSV2\_to\_V1.exe. If this is the first time run then the program will provide an options menu to configure.

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## SPS V2.1 to V1 Util

SPS Convert Options

Output Folder  
E:\test\ SEL

Replacement SPS Header File  
E:\test\1317sps and hdr\SPShdr\V1gg.txt SEL

Replace the Header file  
H00 Format version will be replaced with V1 definition if whole header not replaced.

Remove H26 Records  
H26 Removal only works if not replacing headers.

S File Extension SPS  
R File Extension RPS  
X File Extension XPS

Done

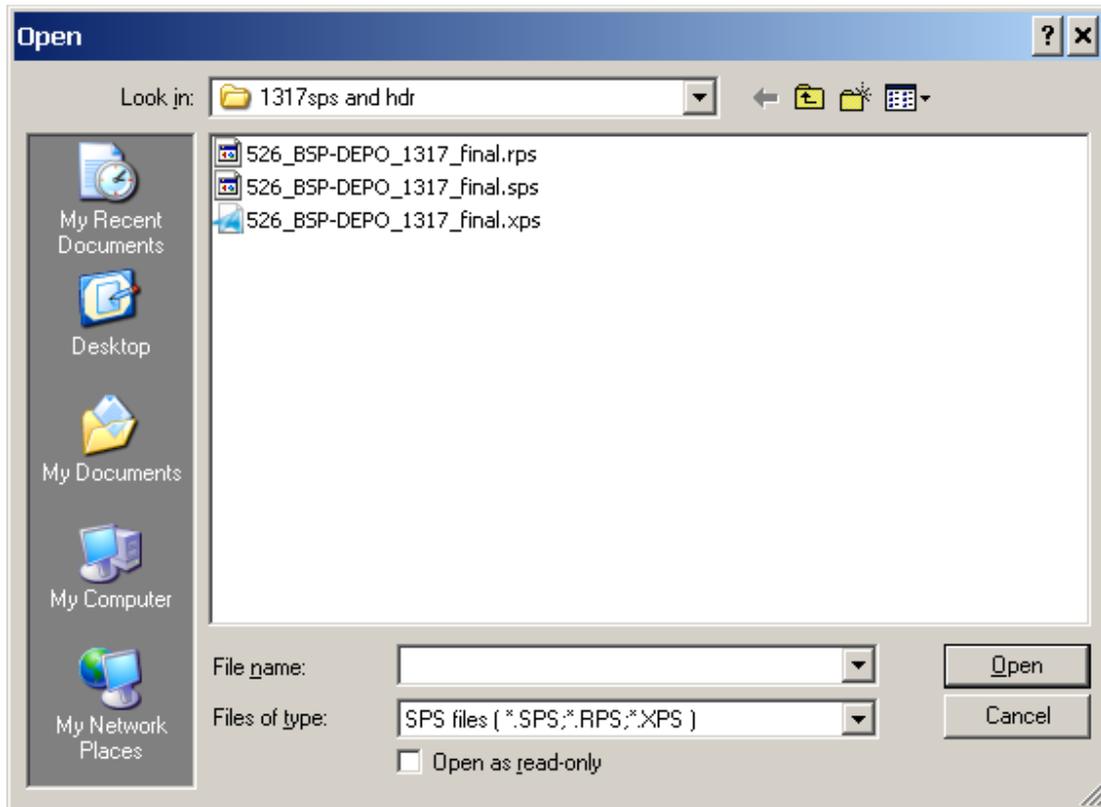
Options Screen

This allows the setting of an output folder , the expected input extensions for S,R and X files and an option to replace the V2 header with a V1 version.

If the V2 Header has V2 Specific H26 records, such as format layout for V2 then an option is provided to remove them. This works only if not replacing the Headers as a replacement header should only contain the records suitable for the V1 file.

The settings will be saved for future use. Options may be changed again at any time by selecting the Option menu on the main form.

Once the options are set then select the file menu/Open SPS files and browse to the V2 file location.



Input file selection

Only files with the appropriate extension as defined in the Options menu will be shown, however selections of all files is also allowed using the 'File of Type' dropdown menu.

Select any one of the V2 files and press enter.

All three files will be processed and saved to the output folder. All output files will have the same base name as the input files, but will have \_V1 appended to the base name.

### ***Replacement Header File template***

At times it is necessary to replace the Contractor provided header with a replacement header. Sometimes the Contractor will initially supply SPS files with no or limited headers such as the Raw SPS files from the Sercel 408/428 recorder system. In order to read these files into Vega or Regulus a valid header must be attached. The contractor may take some time after the start of recording to provide final SPS with approved headers. In order to QC the data prior to this using Vega you can get the data loaded using the replacement header. Using a header template is also a good way to use the SPS checker to generate a valid approved header for use by the contractor.

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The V1 version replacement Header template file , if used, will need to be created manually and saved as a <Filename>.TXT file prior to use. A good starting point is to use the Contractor supplied header and edit it to suit, initially just replacing the H00 record to indicate a V1 format.

An example land crew Header file template is provided with the installation, but it will need to be modified fully for the current project.

### ***The H00 record:***

The V1 H00 record should be as follows:

***H00 SPS format version num. SPS001,08OCT1990 (SHELL EP 90-2935);***

The H00 record for the V2.1 format is as follows:

### ***New Header records in V2.1:***

***H00 SPS format version num. SPS 2.1,JAN2006 ;***

V2.1 format also added one additional optional header record definition

### ***H023, Line Sequence number***

This record was added to allow multiple attempts at recording the same line name/number.

### ***Obsolete header records in V2.1:***

One Header record ***H31 Line Name format*** was made obsolete as all Linenames in V2.1 are to be Numeric only for machine readability and storage in SEGY/SEGD headers.

The Header records remain basically the same except where any specific field format definitions are listed in H26 records.

Any H26 V2.1 specific records should be replaced or left off the V1 format header file to prevent confusion.

### ***Running the utility after initial setup.***

To run utility at other times during the project, assuming the options remain the same:

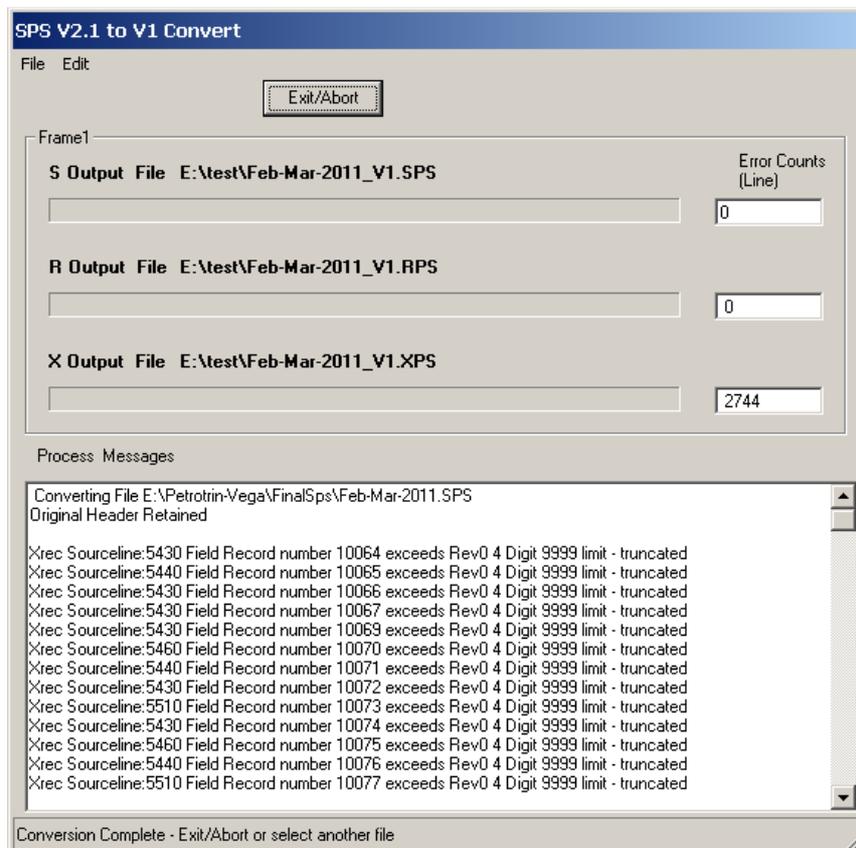
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## SPS V2.1 to V1 Util

Just start the SPSV2\_to\_V1.exe and select File menu /Open SPS files or select Options to change the Current options before conversion.

### **Convert Error detection**

If any errors are detected during the conversion they are listed in the process message box. When the conversion is completed an option to save the errors to a log file will appear.



### Error listing if FFID exceeds 9999

Typical errors detected will be when the V2.1 value in a specific field exceeds the allowed field length in the V1 format.

### **Exit/Abort Button**

The **Exit/Abort** button allows immediate termination of the conversion process if it hangs for any reason or may be used to exit the program when conversion is completed.