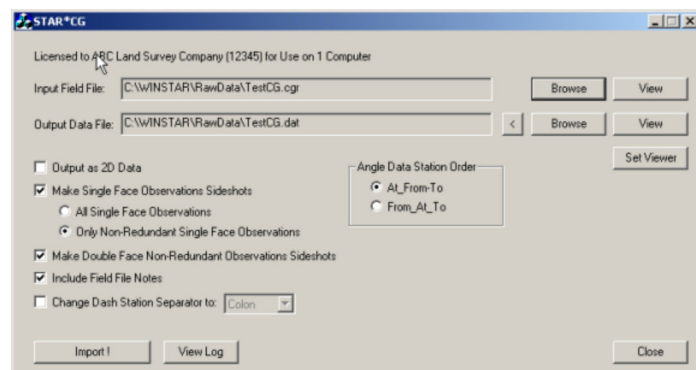


STAR*NET CONVERSION UTILITIES

STAR*CG CONVERSION UTILITY

The STAR*CG utility converts C&G Software data collector files to STAR*NET data format.



Running the program is easy. First browse for the raw field file to convert, then browse for an output file (a new or existing file), set desired options and press the "Import" button. If errors or warnings are found, they are listed in a Log file - review by pressing "View Log" button. When errors are found, data will not be created in the output file. In this case, review the errors listed in the Log File, edit the raw field file to make necessary corrections and re-import.

When browsing for the output file, you can press one of two buttons. The standard "Browse" button opens the output file dialog in the same directory as the raw field file and offers the same file name as the raw field file, but with a "dat" extension. Of course you can modify the offered name to whatever you wish to use. The smaller "<" button opens the output file dialog in the same directory already shown in the field to the left - useful when you've stored output in a different directory during the previous run, and you want to output to that directory again.

A "View" button, next to each of the input and output file fields, brings up an editor. So besides viewing a file, you can also edit it. By default, the editor assigned is Windows "Notepad", but just as in the STAR*NET program, you can set an editor of your choice by pressing the "Set Viewer" button and browsing for the editor program you prefer.

Selecting Processing Options

- **Output as 2D Data** - By default, STAR*NET data is created in a 3D output format. STAR*NET can handle 3D formatted data in both 2D and 3D adjustments. Since STAR*NET can internally reduce 3D data to 2D, creating data in 3D format should be considered preferable since all original data remains in tact and STAR*NET handles reductions rigorously using curved earth geometry. However if you have localized projects that are 2D and prefer to have your data immediately converted to 2D format by applying a simple reduction of distance and zenith observations to horizontal distances, select this option.
- **Make Single Face Observations Sideshots** - By default, all foresight shots are created in STAR*NET data as "M" lines (measure data type) which take part in the actual adjustment. However, when many shots in a data set are topo or detail shots (shot only once) it can be an advantage to call these observations Sideshots ("SS" lines) since they are computed after the adjustment is performed and have no influence in the network adjustment or statistics.

If you select this option, choose one of two sub-options: (1) All Single Face Observations, or (2) Only Non-Redundant Single Face Observations. In the first case, all single-face observations will be converted to "SS" lines whether or not they are redundant to some other point of the same name. In the second case, only non-redundant single-face observations will be converted to SS lines, the more usual selection for most surveys we would think.

- **Make Double Face Non-Redundant Observations Sideshots** - Some surveyors take topo or detail shots with double-face observations but still want these shots be created as "SS" lines. Selecting this option allows this to occur. Double-face observations redundant to any other foresight, backsight, occupy or sideshot point, however, will still be created as "M" line network observations.
- **Include Field File Notes** - Causes field file note lines to be included in the output data file.
- **Change Dash Station Separator to** - By default, the dash (e.g. 121-120-122) is used for station name separators. If some of your station names already contain dashes and you wish to keep them, this option allows you to change the separator to some other character.
- **Angle Data Station Order** - This is simply an output preference. Some surveyors prefer to see angular observations shown as At-From-To, others as From-At-To.

General Notes on Input and Output

- The program assumes field files have "CGR" or "RAW" extensions. If you have a file with a different extension, choose "All Files (*.*)" from the "File of type" field in the file selection dialog and then select the file you wish to convert from the complete list.
- In the raw field file, blank lines and lines beginning with the "#" character are ignored. You can edit the raw file and prefix any line with a "#" character rather than deleting the line.
- The Program supports ".DATA ON" and ".DATA OFF" inline options just like in several other STAR*NET conversion utilities. To cause selected parts of the raw field file to be ignored, insert a ".DATA OFF" line beginning at the place you want data to start being ignored and then a ".DATA ON" where you want data to be again converted.
- Stored Points found in the field file are copied into the data file as comments. To use one of these points as a control point in STAR*NET data, simply uncomment the data line and edit-in the appropriate fixity codes. Example:

```
C 25 10000.000 10000.000 500.000 ! ! !
```

- Note that at the beginning of a STAR*NET data file created by this utility program, several inline option lines are listed. For example:

```
.3D
.Order AtFromTo
.Sep -
.Delta Off
```

These inline options precede data they define making it possible to combine data files having different characteristics in a single STAR*NET project.

- An entire data file created by this utility can be added to a STAR*NET project using the "Input Data Files" dialog (see the STAR*NET manual), or using a text editor you can copy and paste all or parts of the file contents into a data file that already exists as part of a STAR*NET project.
- The "Log File" is always created during a run. It lists any errors, warnings or notes produced during the run and references actual line numbers in the field file. This file has the same name as the input field file but with a "log" extension and is always created in the same directory as the input file. Review it by pressing the "View Log" button.

When errors are reported, an output data file is not created and you should review the log file so you can correct errors and rerun. When only warnings or notes are reported, an output data file is created, but it is still always important to review any warning messages in the log file to determine the reason they were reported. Notes when posted are only informational.

Example Input Field File

The following is the beginning of a sample field file named TestCG.cgr supplied with the program. You can use this file to make a test run with the STAR*CG converter utility.

```

040903                                05/30/99
6C 508 1379252.47622 2225893.54352 907.10300
6C 502 1378772.41153 2225944.75814 899.79000
1      508      5.030      502      4.840 159.30170 482.846 90.53070 05/30/ 99 13:14:44
1      4.850 1.51300 411.077 90.17100 503
1      4.850 181.51480 411.077 269.43070 503
1      4.840 339.30260 482.847 269.07080 502
1      4.840 159.30210 482.847 90.53060 502
1      4.950 245.50160 282.730 90.28570 504
1      4.950 65.50250 282.730 269.31160 504
1      4.840 339.30160 482.847 269.07080 1000
1      4.840 159.30210 482.847 90.53040 1000
1      4.840 339.30260 482.847 269.07080 502
1      503      4.850      508      5.030 219.56190 411.078 89.43100 05/30/ 99 13:18:36
1      4.950 245.20090 592.356 90.02080 504
1      4.950 65.20100 592.356 269.58050 504
1      5.030 39.56150 411.078 270.17100 508
1      5.030 219.56200 411.078 89.43060 508
1      504      4.950      503      4.850 173.48400 592.357 89.58100 05/30/ 99 13:11:25
1      5.370 31.22050 983.118 90.02090 501
1      5.370 211.22030 983.118 269.58030 501
1      4.850 353.48270 592.358 270.02010 503
1      4.850 173.48300 592.357 89.58140 503
1      4.910 7.42570 607.857 89.58390 505
1      4.910 187.42520 607.857 270.01330 505
1      4.850 353.48290 592.357 270.01590 503
1      4.850 173.48330 592.357 89.58160 503
1      501      5.370      504      4.950 236.26590 983.119 89.58240 05/30/ 99 13:16:58
1      4.910 266.13190 491.156 89.54310 505
1      4.910 86.13150 491.156 270.05420 505
1      4.950 56.26590 983.120 270.01520 504
1      4.950 236.27020 983.119 89.58220 504
1      4.760 313.18220 640.837 88.58590 506
1      4.760 133.18250 640.837 271.01070 506
1      4.950 56.26560 983.119 270.01530 504
1      4.950 236.27020 983.118 89.58200 504
1      506      4.760      501      5.370 66.09400 640.838 91.01170 05/30/ 99 13:18:57
1      5.020 162.02260 1089.527 90.50350 502
1      5.020 342.02250 1089.526 269.09390 502
1      5.370 246.09460 640.838 268.58490 501
1      5.370 66.09490 640.837 91.01230 501
1      4.840 170.37070 643.756 91.02030 507
1      4.840 350.37100 643.757 268.58100 507
1      5.370 246.09450 640.837 268.58510 501
1      5.370 66.09410 640.838 91.01240 501
1      502      5.020      506      4.760 286.26240 1089.526 89.10020 05/30/ 99 14:16:49
1      5.030 28.23260 482.846 89.07250 508
1      5.030 208.23240 482.845 270.52540 508
1      4.760 106.26230 1089.526 270.50150 506
1      4.760 286.26270 1089.527 89.10020 506
1      4.840 274.28280 463.047 89.27470 507
1      4.840 94.28220 463.046 270.32310 507
1      4.760 106.26280 1089.526 270.50140 506
1      4.760 286.26280 1089.527 89.10040 506
1      4.910 310.33220 835.935 89.38170 505
1      4.910 130.33230 835.935 270.21560 505
1      4.760 106.26310 1089.527 270.50150 506
1      4.760 286.26290 1089.526 89.10020 506
1      4.950 357.07380 543.676 89.28180 504
1      4.950 177.07400 543.675 270.32020 504
1      4.760 106.26270 1089.527 270.50130 506
1      4.760 286.26300 1089.526 89.10000 506
1      505      4.730      501      4.260 272.47400 491.171 90.12190 05/31/ 99 09:19:55
1      4.260 189.27390 472.565 88.45360 506
1      4.260 9.28110 472.565 271.14460 506
1      4.260 92.47430 491.171 269.47540 501
1      4.260 272.47440 491.171 90.12210 501
1      4.260 110.26190 536.250 90.09010 507
etc...
```

Example Output File

This is the resulting TestCG.dat file in STAR*NET format converted using the processing options shown on the first page. You can experiment using different options.

```

# STAR*CG Version 7.2.2
# Copyright 2012 MicroSurvey Software Inc.

# Input Field File : C:\RawData\TestCG.cgr
# Date Processed   : 04-03-2007 13:10:27

# C 508 1379252.47622 2225893.54352 907.10300
# C 502 1378772.41153 2225944.75814 899.79000

.3D
```

.ORDER AtFromTo
 .SEP -
 .DELTA OFF

05/30/ 99 13:14:44
 DV 508-502 482.8465 90-52-59.50 5.030/4.840
 M 508-502-503 202-21-17.50 411.0770 90-17-01.50 5.030/4.850
 DV 508-502 482.8470 90-52-59.00 5.030/4.840
 M 508-502-504 86-19-57.00 282.7300 90-28-50.50 5.030/4.950
 SS 508-502-1000 359-59-55.00 482.8470 90-52-58.00 5.030/4.840

05/30/ 99 13:28:36
 DV 503-508 411.0780 89-43-00.00 4.850/5.030
 M 503-508-504 25-23-52.50 592.3560 90-02-01.50 4.850/4.950
 DV 503-508 411.0780 89-43-06.00 4.850/5.030

05/30/ 99 13:31:25
 DV 504-503 592.3575 89-58-04.50 4.950/4.850
 M 504-503-501 217-33-30.50 983.1180 90-02-03.00 4.950/5.370
 DV 504-503 592.3570 89-58-07.50 4.950/4.850
 M 504-503-505 193-54-25.00 607.8570 89-58-33.00 4.950/4.910
 DV 504-503 592.3570 89-58-16.00 4.950/4.850

05/30/ 99 13:46:58
 DV 501-504 983.1195 89-58-16.00 5.370/4.950
 M 501-504-505 29-46-18.00 491.1560 89-54-24.50 5.370/4.910
 DV 501-504 983.1190 89-58-14.50 5.370/4.950
 M 501-504-506 76-51-24.50 640.8370 88-58-56.00 5.370/4.760
 DV 501-504 983.1180 89-58-20.00 5.370/4.950

05/30/ 99 13:58:57
 DV 506-501 640.8380 91-01-14.00 4.760/5.370
 M 506-501-502 95-52-42.50 1089.5265 90-50-28.00 4.760/5.020
 DV 506-501 640.8370 91-01-16.00 4.760/5.370
 M 506-501-507 104-27-21.50 643.7565 91-01-56.50 4.760/4.840
 DV 506-501 640.8380 91-01-24.00 4.760/5.370

05/30/ 99 14:16:49
 DV 502-506 1089.5260 89-09-53.50 5.020/4.760
 M 502-506-508 101-57-01.50 482.8455 89-07-15.50 5.020/5.030
 DV 502-506 1089.5265 89-09-54.00 5.020/4.760
 M 502-506-507 348-01-57.50 463.0465 89-27-38.00 5.020/4.840
 DV 502-506 1089.5270 89-09-54.50 5.020/4.760
 M 502-506-505 24-06-53.00 835.9350 89-38-10.50 5.020/4.910
 DV 502-506 1089.5265 89-09-54.50 5.020/4.760
 M 502-506-504 70-41-11.00 543.6755 89-28-08.00 5.020/4.950
 DV 502-506 1089.5260 89-10-00.00 5.020/4.760

05/31/ 99 09:09:55
 DV 505-501 491.1710 90-12-12.50 4.730/4.260
 M 505-501-506 276-40-13.50 472.5650 88-45-25.00 4.730/4.260
 DV 505-501 491.1715 90-12-12.50 4.730/4.260
 M 505-501-507 197-38-31.00 536.2500 90-08-49.00 4.730/4.260
 DV 505-501 491.1715 90-12-15.00 4.730/4.260
 SS 505-501-18 291-52-35.50 350.8095 88-41-17.00 4.730/4.260
 DV 505-501 491.1715 90-12-18.00 4.730/4.260
 SS 505-501-19 281-20-09.00 245.1970 88-41-10.50 4.730/4.260
 DV 505-501 491.1715 90-12-16.00 4.730/4.260
 SS 505-501-20 262-11-24.50 142.7400 88-43-59.00 4.730/4.260
 DV 505-501 491.1710 90-12-16.50 4.730/4.260
 SS 505-501-21 188-17-04.00 62.8520 90-06-19.50 4.730/4.260
 DV 505-501 491.1700 90-12-24.00 4.730/4.260

05/31/ 99 09:39:04
 DV 505-501 491.1715 90-12-15.00 4.730/4.260
 SS 505-501-22 130-48-33.00 227.5625 91-03-11.00 4.730/4.260
 DV 505-501 491.1715 90-12-13.50 4.730/4.260
 SS 505-501-23 113-51-39.00 274.2510 90-52-21.00 4.730/4.260
 DV 505-501 491.1710 90-12-13.00 4.730/4.260
 SS 505-501-24 100-53-52.00 291.8955 90-58-05.50 4.730/4.260
 DV 505-501 491.1715 90-12-13.50 4.730/4.260
 SS 505-501-25 85-21-09.00 340.7895 91-06-59.50 4.730/4.260
 DV 505-501 491.1715 90-12-16.00 4.730/4.260
 M 505-501-27 68-47-31.50 344.3200 90-53-27.50 4.730/4.260
 DV 505-501 491.1710 90-12-16.50 4.730/4.260
 M 505-501-28 48-07-09.00 309.1100 90-46-55.00 4.730/4.260
 DV 505-501 491.1715 90-12-18.00 4.730/4.260
 M 505-501-29 25-13-03.50 320.2700 90-31-43.00 4.730/4.260
 DV 505-501 491.1720 90-12-17.50 4.730/4.260
 M 505-501-30 3-32-46.50 389.3065 90-12-45.50 4.730/4.260
 DV 505-501 491.1720 90-12-25.00 4.730/4.260

05/31/ 99 10:01:33
 DV 501-506 640.8355 89-00-52.00 5.260/4.260
 M 501-506-27 271-43-15.50 487.2870 90-32-27.50 5.260/4.260
 DV 501-506 640.8350 89-01-01.00 5.260/4.260
 M 501-506-28 273-58-58.50 366.1920 90-32-32.00 5.260/4.260
 DV 501-506 640.8345 89-00-52.00 5.260/4.260
 M 501-506-29 278-48-12.00 243.3050 90-31-08.50 5.260/4.260
 DV 501-506 640.8350 89-00-57.50 5.260/4.260
 M 501-506-30 299-42-38.50 105.4010 90-22-25.50 5.260/4.260
 DV 501-506 640.8355 89-00-58.50 5.260/4.260
 SS 501-506-31 12-48-55.00 116.7880 89-55-29.50 5.260/4.260
 DV 501-506 640.8350 89-00-55.50 5.260/4.260
 SS 501-506-32 4-30-44.50 213.9190 89-39-08.50 5.260/4.260
 DV 501-506 640.8350 89-00-58.50 5.260/4.260
 SS 501-506-33 0-44-36.00 350.0700 89-05-37.00 5.260/4.260
 DV 501-506 640.8340 89-00-57.00 5.260/4.260