SurvCE RW5 Format

This document outlines the SurvCE RW5 format in detail.

The format is a comma separated ASCII file containing record types, headers, recorded data and comments. The format is based on the TDS raw data specification with the exception of angle sets.

Angle sets are recorded as BD, BR, FD and FR records to allow reduction of all possible data that can be recorded by SurvCE using the "Set Collection" routine. Essentially, these records are identical to a sideshot record.

With the exception of the aforementioned angle set records, if the TDS specification is modified to provide enhanced functionality, the added or modified data will reside in comment records to avoid incompatibility with existing software.

Backsight Record

Record type: BK

Field headers:

OP	Occupy point
BP	Back Point
BS	Backsight
BC	Back Circle

Sample(s):

BK,OP1,BP2,BS315.0000,BC0.0044

Job Record

Record type: JB

Field headers:

NM	Job name
DT	Date
TM	Time

Sample(s):

JB,NMSAMPLE,DT06-27-2003,TM14:21:53

Line of Sight Record

Record type: LS

Field headers:

HI	Height of Instrument
HR	Height of Rod

Sample(s):

LS,HI5.000000,HR6.000000
LS,HR4.000000

Mode Setup Record

The mode setup will be recorded at the beginning of the raw data file.

Record type: MO

Field headers:

AD	Azimuth direction (0 for North, 1 for South)
UN	Distance unit (0 for feet, 1 for meter)
SF	Scale factor
EC	Earth Curvature (0 for off, 1 for on)
EO	EDM offset(inch)

Sample(s):

MO,AD0,UN0,SF1.00000000,EC1,EO0.0,AU0

Occupy Record

Record type: OC

Field headers:

PN	Point number
N	Northing (the header is N space)
E	Easting (the header is E space)
EL	Elevation
--	Note

Sample(s):

OC,OP1,N 5000.00000,E 5000.00000,EL100.000,--CP

Off Center Shot Record

Record type: OF

Field headers:

AR	Angle right
ZE	Zenith (actual)
SD	Slope Distance

Sample(s):

OF,AR90.3333,ZE90.0000,SD25.550000
OF,ZE90.3333,--Vert Angle Offset

Store Point Record

Record type: SP

Field headers:

PN	Point Number
N	Northing
E	Easting
EL	Elevation
--	Note

Sample(s):

SP,PN100,N 5002.0000,E 5000.0000,EL100.0000,--PP

Traverse / Sideshot Record / Backsight Direct / Backsight Reverse / Foresight Direct / Foresight Reverse

Record type: TR / SS / BD / BR / FD / FR

Field headers:

OP Occupy Point
FP Foresight Point

(one of the following)
AZ Azimuth
BR Bearing
AR Angle-Right
AL Angle-Left
DR Deflection-Right
DL Deflection-Left

(one of the following)
ZE Zenith
VA Vertical angle
CE Change Elevation

(one of the following)
SD Slope Distance
HD Horizontal Distance
-- Note

Sample(s):

```
TR,OP1,FP4,AR90.3333,ZE90.3333,SD25.550000,--CP
SS,OP1,FP2,AR0.0044,ZE86.0133,SD10.313750,--CP
BD,OP1,FP2,AR0.0055,ZE86.0126,SD10.320000,--CP
BR,OP1,FP2,AR180.0037,ZE273.5826,SD10.315000,--CP
FD,OP1,FP3,AR57.1630,ZE89.4305,SD7.393000,--CP
FR,OP1,FP3,AR237.1612,ZE270.1548,SD7.395000,--CP
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Alphabetical listing of Record Types

BD	Backsight Direct
BK	Backsight
BR	Backsight Reverse
FD	Foresight Direct
FR	Foresight Reverse
GPS	GPS Position in Lat (dd.mmss) Lon (dd.mmss - Negative for West) and WGS84 Ellipsoid Elevation
GS	Reduced local coordinate from GPS record and localization data
JB	Job
LS	Line of Sight
MO	Mode Setup
OC	Occupy
OF	Off Center Shot
SP	Store Point
SS	Side Shot
TR	Traverse
--	Note Record

Alphabetical listing of Field Headers

AD	Azimuth Direction (0 for North, 1 for South)
AL	Angle-Left
AR	Angle-Right
AZ	Azimuth
BC	Back Circle
BP	Back Point
BR	Bearing (this field will be recorded as N123.4500W)
BS	Backsight (when back point is not defined)
CE	Change Elevation
DL	Deflection-Left
DR	Deflection-Right
DT	Local Date (MM-DD-YYYY)
E	Easting (the header is E space)
EC	Earth Curvature (0 for off, 1 for on)
EL	Elevation
EO	EDM Offset
FE	Foresight Elevation
FP	Foresight Point
HD	Horizontal Distance
HI	Height of Instrument
HR	Height of Rod
N	Northing (the header is N space)
OC	Occupy Point
OP	Occupy Point
PN	Point Number
SD	Slope Distance
SF	Scale Factor
TM	Local Time (HH:MM:SS)
UN	Distance Unit (0 for feet, 1 for meter, 2 for US feet)
VA	Vertical Angle
ZE	Zenith
--	Note