·	Trimble CU	C Ruetoot/		AUG DEF
٥	Job: T3 Eiles Survey Exit	ab Key in Configuration Cogo Instrument	Map Menu Favorites Switch to Enter	7 8 9 GHI JXL HXD C 4 5 6 Cut 1 2 3 Tab 0 • • • •
		(© Tri	mble	

These notes describe the interfacing of 12d version 8 with the Trimble surveying instruments.

1) Installing Trimble link

Trimble link must be installed prior to attempting to upload or download data to the Trimble controller. The user will need to have access to the internet and have administrator rights

1.1) Installing the software	p 2 - 4
1.2) Registering the software	p 5 - 7
1.3) Updating Data Transfer software	р8

2) Uploading

2.1)	Point coordinates (Job file)	p 9 – 11
2.2)	Point coordinates (Linked file)	p 12 - 14
2.3)	DXF file for background	p 15 - 17
2.4)	DXF file for stakeout	p 18 - 20
2.5)	TIN	p 21 - 22
2.6)	Road sections and strings (Simple Road)	p 23-24
2.7)	Road Strings (Complex Road)	р 25 - 26

3) Downloading

Trimble link

1 Trimble link

1.1 Installing Trimble link (Administrator rights needed)

Insert the 12d v8 installation cd



Select the Other Software tab





Trimble Link Engine Install

Select Install to begin the install process



Select Next

tallShield Wizard	
License Agreement Please read the following license agreem	ent carefully.
Press the PAGE DOWN key to see the re	est of the agreement.
TRIMBLE NAVIGATION LIMITED END USER LICENSE AGREEMENT IMPORTANT, READ CAREFULLY. THIS ("AGREEMENT") IS A LEGAL AGREEM NAVIGATION LIMITED for the Trimble L computer software (whether stored on di Trimble's Web site), including upgrades a and any "online" or electronic document ACCEPTANCE BOX, OR BY INSTALLIN	S END USER LICENSE AGREEMENT IENT BETWEEN YOU AND TRIMBLE ink Software product, which includes any gital or magnetic media or downloaded from and updates, and accompanying printed materials iation ("Software"). BY CLICKING "YES" IN THE IG, COPYING OR OTHERWISE USING THE Image: Copying of the second sec
setup will close. To install Trimble Link Er	ngine, you must accept this agreement.
	< Back Yes No

Select **Yes** to accept the licence agreement

InstallShield Wizard	
	InstallShield Wizard Complete The InstallShield Wizard has successfully installed Trimble Link Engine. Click Finish to exit the wizard.
	< Back Finish Cancel

Select Finish to end the install

1.2 Registering Trimble link

The first time Trimble link is run you need to register the software. Ensure you are connected to the internet

In 12d select option *Survey=>Setup* to select the data collector type

Select the data collector choice icon then select Trimble Link Feature String

🔜 Survey Da	ata Setup			
Data collector	Trimble Link Feature	String		
Station prefix			lect Choice	
action prome				_
1			Geodimeter 12D	-
Set	Finish	Help	Leica GSI 12D	
			Leica GSI 12D Alpha Numeric Point ID's	
			Leica GSI 12D Codes before measurements	
			Leica GSI 12D Codes before measurements Alpha Numeric Point II	D's
			Nikon AP700 Feature String	
			Nikon Feature String	
			Psion	
			Sokkia Card Reader	
			Sokkia Contourable String Feature	
			Sokkia Feature Contourable String	
			Solkia Feature String	
			Sokkia Feature String Concourable	
			Solitia SDRMan Enviration	
			Solkia SDRMap Emulation Strict	
			Sokkia String Contourable Feature	
			Sokkia String Feature	
			Topcon CR-1 Feature String	
			Topcon FC-2 Feature String	
			Topcon FC-4 Feature String	
			Topcon FC-5 Feature String	
			Topcon FC-6 Feature String	
			Topcon GTS-210 Feature String	
			Topcon GTS-211 Feature String	
			Topcon CTC C Full on String	
			Topcon GTS-700 Feature String	
			Trimble Link Feature String	-
				, č
				<u>·</u>
			Select	-
		[E	dit]	

Select Set then Finish



Select option Survey=>Download Raw

Survey Data Download	
Download as reduced coords Trimble Data Transfer Utility	
Install geoids Download Finish	Help

Select Download

uthorize Trimble Link
Before you can use Trimble Link you must accept the terms and conditions of the Software License Agreement and complete an online registration form (using the link below) to obtain the authorization code. This registration, and the use of Trimble Link is free. Note: By clicking on the link below you will be leaving the current application environment and will be taken to the Trimble website. After registering, close your web browser, and you will be returned to the current application environment.
Software License Agreement
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Yes, I Agree No, I Don't Agree
http://www.trinible.com/tlsreg.asp
Authorization code:
OK Cancel

An authorisation code is required. To register click on the link to the Trimble web page

http://www.trimb	e.com/tls:eq.asp
Authorization code:	
OK	Cancel





A registration number will be sent straight away. Record this number for entry into the Registration panel

Exit the panel and return to the Registration panel

Type in the Registration number, Select Yes, I Agree to accept the licence then select OK

Select Close to exit the Tips panel

Trimble Link is now registered. Proceed to the relevant chapter to upload / download data

1.3 Updating Data Transfer software

As the data transfer software is provided by Trimble any updates need to be downloaded from the Trimble Web page link below

http://www.trimble.com/datatransfer.shtml

or by selecting Trimble Data Transfer Utility in the Survey Data Download panel

Survey Data Download	
Download as reduced coords Trimble Data Transfer Utility	
Install geoids Download Finish	Help

Installation instructions are included on the Web Page

2 Uploading from 12d to the Trimble controller

2.1 Point coordinates (Job file)

Create the point numbers for the setout points as per the **Getting Started For Surveyors** manual chapter 11.1.5

Connect the controller to the computer by an approved method then select option Survey=>Upload=>Create points upload file (new)

Plan 1	_ _ D×
$\blacksquare \Rightarrow - \blacksquare \leqslant < a < \ < b$	
V	
1.0.0	
1.800	Create points upload file
6 11	File type Trimble *.dc V
11.100 7	Upload directly to Trimble device
00	Data source of setout points
3.0	5 F B B B F F F F
6.000	4.4.22 View 1
07	P Default for pull 2 values 000 bi
r 11 oc	Only upload points with numeric point names
8.200	Start point number 1
	10 End point number 12
00	4.422 Origin x
1.4	Origin y
8.900	choice ok
12	Write Finish Help
File type	Tick the check box to upload directly to the controller
Upload directly to Trimble device	
	Select the data to upload using one of the source
View 1	
Default for null z values 999	
Only upload points with numeric point names $\overline{ m{v} }$	Lick the check box to only upload numeric
Start point number 1	numbers. This allows you to edit the number
End point number 12	range
Origin x	
Origin y	
choice ok	Select Write
Write Finish Help	

Warning	2
<u>.</u>	Trimble Survey Controller coordinate system data is not available for this project. The coordinate system can be set up later on the Trimble Survey Controller.

Select **OK** to accept the warning regarding the coordinate system

arens						?
Look in:	🍠 Devices	•		F	8-8- 8-8- 8-8-	m
🧳 Survey C	Controller on COM1					
TRIMBL	E DATA CARD					
n Survey C	Controller on ActiveSync					
🍯 5600 GD	IM on COM 1					
ïle name:			_		Open	
ile name: iles of type:			Y		Open Cance	ł
ile name: iles of type:					Open Cance	si i

Select the controller for uploading then select Open

iave As						?)
Look in:	1	RIMBLE DATA CARD	-	Ē		: m
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	1					
TRIMBLE	2					
1000						
	-			_	-	
ile name:	- (SETOUT1		_ (Sa	ave
iles of type:		Survey Controller Files		Ŧ	Car	ncel

Type in the file name to create then select Save



The file can now be opened and viewed in the controller

To create an upload of strings or to have the shape of the house along with the text see sections on creating string uploads and dxf file uploads



2.2 Point coordinates (Linked file)

A linked file of coordinates can be created and uploaded to the controller for setout. The benefit of a linked file is that it is not included in the download of points from the controller.

Create the point numbers for the setout points as per the **Getting Started For Surveyors** manual chapter 11.1.5

Create comma delimited (csv) file of point coordinates

Write X Y Z General File for 📃 🗌 🔀	
Data to write	
📐 🗢 🗖 🗖 🎜 🖓 🔗 🛸 🛛 📩	
Model Setout 📚	Select data to list
Parameters	
Parameter file 🔁 🎅 🧨	
Number of decimal places 3 123	
Default for null value	
Include column names	
File House.csv 🗁	Type in file name
Output mode Delimiter V	
Delimiter	Set Delimiter to comma
Colump pumber/Position in file	
Information Type Column #	
1 point id 1	Set up order of data
2 × coord 2	
3 y coord 3	
4 Z COORD 4	
5 suing name 5	
Attribute Mode Attribute Name Column #	
1	
choice ok	
	Select Write
Write Clipboard Finish Help	

Select option File I/O=>Data Output=>Write xyz general

Copy the csv file to the controller using Active Sync and Windows Explorer.

Refer to Trimble documentation for target location of file



On the controller open the job to setout

Select Files=>Open Job then pick the required job

🄊 Job: HOUS	<u>N</u> ew job	ab	? _ ×	🔊 Select job 🛛 🔹 ab 🤶	- ×
	<u>O</u> pen job			Name Size Modified	•
	<u>Review current job</u>	1	4	HOUSE 65kb 1/11/2007	
	<u>Q</u> C Graph	ľ –		ROAD DESIGN 6kb 18/10/2007	
<u>F</u> iles	Map of current job	ion		ROAD DESIGN 4kb 19/10/2007	
* * *	Properties of current job	L	Мар		<u>M</u> ap
M 🖀	Import / Export		M <u>e</u> nu	· · · · · · · · · · · · · · · · · · ·	M <u>e</u> nu
	Windows Explorer	1	F <u>a</u> vorites	Fa	vorites
<u>S</u> urvey	<u>C</u> ogo <u>I</u> nstrum	ent	S <u>w</u> itch to	< > S <u>v</u>	<u>v</u> itch to
Exit			Enter	Esc Copy Delete New	elect



Select File=>Properties of current job

Select Linked files then select csv file to link

TAKE	Job properties	AB	? _ X
	Job name:	HOUSE	
	Properties		
	Coord. sys.:	Scale: 1.0000000000	
	Units (Dist.):	Meters	
	Linked files:	None	
	Active man:	Nene	<u>M</u> ap
	W		M <u>e</u> nu
	Feature library:	None	Favorites
	Cogo settings:	Ground 1/2	
	Esc		Accept

🖗 Li	nked files				a b	? _ ×
Nan	ne		Size	Туре		-
H	OUSE		1kb	csv		4
R	OAD DES	SIGN	6kb	job		1.5
R	OAD DES	SIGN	4kb	job		
			4kb	job		Man
1 1	RIMBLE		607 KD	txt		<u>M</u> ap
						M <u>e</u> nu
						F <u>a</u> vorites
<	Ш				>	S <u>w</u> itch to
Eso						Accept
LSC	All	None				

These points can then be set out in the stakeout menu



2.3 DXF file for background

A dxf file can be used as a background on the controller

Select option File I/O=>Data Output=>DWG/DXF/DXB

Data to write View Format Unit Metric File AutoCAD Version AutoCAD Version AutoCAD Version AutoCAD Version AutoCAD 2004 Type in file name Set version Autocad 2004 Template file General Text/Attributes Advanced Dimension 2d Default level 0 Map file Symbol colours Use blocks for point styles Colours by layer Linetypes by layer Linetypes by layer Linetypes by layer Colours by layer Virtle Finish Help Select Write	Write DWG/DXF file for		
Format dxf Unit Metric File HOUSE.dxf AutoCAD Version AutoCAD 2004 Template file Select 2d General Text/Attributes Advanced Dimension 2d Default level 0 Oefault level 0 Vapo file Select 2d Symbol colours default Use blocks for point styles Colours by layer Linetypes by layer Colours by layer Linetypes by layer Create string super text Zoom extents Write Completed Successfully Write Completed Successfully Help	Data to write		Select data to list
Unit Metric File HOUSE.dxf AutoCAD Version AutoCAD 2004 Template file Set version Autocad 2004 General Text/Attributes Advanced Select 2d Dimension 2d Default level 0 Map file 0 Scale for paper/pixel text 1: 200 Symbol colours default Use blocks for point styles Ype in scale for text appearance Colours by layer Linetypes by layer Linetypes by layer Create string super text Zoom extents Yrite Write Finish Help Select Write	Format	dxf 🗸	Select dxf as format
File HOUSE.dxf AutoCAD Version AutoCAD 2004 Template file Set version Autocad 2004 General Text/Attributes Advanced Select 2d Dimension 2d Default level 0 Map file Select 2d Scale for paper/pixel text 1: 200 Symbol colours default Use blocks for point styles Ype in scale for text appearance Colours by layer Intertypes by layer Linetypes by layer Peratures as arcs Create string super text Ype inscale for text appearance Write Completed Successfully Write Write Finish	Unit	Metric	
AutoCAD Version AutoCAD 2004 Template file General Text/Attributes Advanced Dimension 2d Default level 0 Jage file Scale for paper/pixel text 1: 200 Symbol colours Use blocks for point styles Colours by layer Linetypes by layer Eatures as arcs Create string super text Zoom extents Select Write Select Write	File	HOUSE.dxf 🔁	Type in file name
Template file General Text/Attributes Advanced Dimension 2d Default level 0 Map file Scale for paper/pixel text 1: 200 Symbol colours Use blocks for point styles Colours by layer Linetypes by layer Linetypes by layer Create string super text Zoom extents Write Finish Help Select Write	AutoCAD Version	AutoCAD 2004 🔽	Set version Autocad 2004
General Text/Attributes Advanced Dimension 2d Image: Color of the co	Template file		
Dimension 2d Default level 0 Map file Image: Scale for paper/pixel text 1: Scale for paper/pixel text 1: 200 Symbol colours default Use blocks for point styles Image: Scale for text appearance Colours by layer Image: Scale for text appearance Linetypes by layer Image: Scale for text appearance Eventures as arcs Image: Scale for text appearance Create string super text Image: Scale for text appearance Zoom extents Image: Scale for text appearance Write Completed Successfully Image: Scale for text appearance Write Teinsh Help	General Text/Attributes Advanc	ed)	
Default level Map file Scale for paper/pixel text 1: 200 Symbol colours Use blocks for point styles Colours by layer Linetypes by layer Eeatures as arcs Create string super text Zoom extents Write Completed Successfully Write Finish Select Write	Dimension	2d 🔽	Select <mark>2d</mark>
Map file Scale for paper/pixel text 1: Symbol colours Use blocks for point styles Colours by layer Linetypes by layer Features as arcs Create string super text Zoom extents Write Completed Successfully Write Finish Help Select Write	Default level	o <u>t</u> z	
Scale for paper/pixel text 1: 200 Symbol colours default Use blocks for point styles Image: Colours by layer Linetypes by layer Image: Colours as arcs Features as arcs Image: Colours as arcs Create string super text Image: Colours as arcs Zoom extents Image: Colours as arcs Write Completed Successfully Image: Colours as arcs Write Completed Successfully Image: Colours as arcs Write Completed Successfully Image: Colours as arcs Select Write Image: Colours as arcs	Map file		
Symbol colours default Use blocks for point styles Image: Colours by layer Colours by layer Image: Colours as arcs Linetypes by layer Image: Colours as arcs Features as arcs Image: Colour as arcs Create string super text Image: Colour as arcs Zoom extents Image: Colour as arcs Write Completed Successfully Image: Colour as arcs Write Finish Help Select Write	Scale for paper/pixel text 1:	200	Type in scale for text appearance
Use blocks for point styles Colours by layer Linetypes by layer Features as arcs Create string super text Zoom extents Write Completed Successfully Write Finish Help Select Write	Symbol colours	default	
Colours by layer Linetypes by layer Features as arcs Create string super text Zoom extents Write Completed Successfully Write Finish Help Select Write	Use blocks for point styles		
Features as arcs Create string super text Zoom extents Write Completed Successfully Write Finish Help Select Write	Colours by layer		
Create string super text Zoom extents Write Completed Successfully Write Finish Help Select Write	Energypes by layer		
Zoom extents Write Completed Successfully Write Finish Help Select Write	Create string super text		
Write Completed Successfully Finish Help Select Write	Zoom extents		
Write Excessfully Select Write Select Write	Utite Constant Conserve #		
			Salact Write
	Write	Help	Select Write

Copy the dxf file to the controller using Active Sync and Windows Explorer.

🚉 My Computer					
File Edit View Favorites	Tool	s Help			
🚱 Back + 🕥 - 🏂) s	earch 🌔 Folders	B & >	< 4 🔟 🛄 ·	
Folders	×	Name 🔺	Size	Туре	Modified
 Desktop My Documents 12d correspondence CyberLink My eBooks My Music My Pictures My Computer ACER (C:) ACERDATA (D:) DVD-RAM Drive (E:) DVD Drive (F:) OVD Drive (F:) Mobile Device My Computer My Computer Databases 		Databases Disk Wy Documents Network profiles Program Files Temp Windows Control Panel	23 bytes	System Folder File Folder File Folder File Folder File Folder File Folder File Folder Shortcut	1/06/195

Refer to Trimble documentation for target location of file

On the controller open the job to setout

Select Files=>Open Job then pick the required job

🄊 Job: HOUS	<u>N</u> ew job	ab	? _ ×	😹 Select job 🔹 🔹	? _ ×
	<u>O</u> pen job <u>R</u> eview current job		-	Name Size Modified	
	<u>P</u> oint manager <u>Q</u> C Graph	<u> </u>		ROAD DESIGN 6kb 18/10/2007	
<u>F</u> iles	<u>Map of current job</u> Properties of current job	ion		TRIMBLE 4kb 1/11/2007	
54 A	<u>C</u> opy between jobs		<u>M</u> ap		<u>M</u> ap
/ 🕅 🦉 -	Import / Export	ļ i	M <u>e</u> nu		M <u>e</u> nu
- - 1 1	Windows Explorer	k j	F <u>a</u> vorites		F <u>a</u> vorites
Survey	<u>C</u> ogo <u>I</u> nstrume	ent	S <u>w</u> itch to		S <u>w</u> itch to
Exit			Enter	Esc Copy Delete New	

Select File=>Properties of current job



Select Active map then select dxf file. The layers can be then toggled on or off

🔊 Job properties	ab	? _ X	😰 Active map 🛛 🔒	? _ ×
Job name:	HOUSE		🗆 🖓 HOUSE.dxf	
Properties		A	×o	
Coord. sys.:	Scale: 1.0000000000		✓ LOT	
Units (Dist.):	Meters		✓ HOUSE	
Linked files:	1 1		txt bearing	
	· · · · · · · · · · · · · · · · · · ·	<u>M</u> ap	🖌 txt distance	Мар
Active map:	None	Monu	v txt offsets r	<u> </u>
Feature library:	None	Menu		Menu
	(1 /2)	F <u>a</u> vorites		F <u>a</u> vorites
Cogo settings:	Ground	S <u>w</u> itch to		S <u>w</u> itch to
Esc		Accept	Esc All None Options	

The strings and text can then be seen in the display along with the setout points



2.4 DXF file for setout

A dxf file can also be used for setout of strings

Select option File I/O=>Data Output=>DWG/DXF/DXB

Write DWG/DXF file for		
Data to write	🅞 🔽 📩 base 🛛 👳	Select dat
Format	dxf	Select dxf
Unit	Metric	
File	BDSETOUT.dxf 🗀	Type in fil
AutoCAD Version	AutoCAD 2004 🔽	Set versio
Template file		
General Text/Attributes Advanced	1	
Dimension	3d 🔽	Select 3d
Null level value	0 <u><u><u>j</u>z</u></u>	
Map file		
Scale for paper/pixel text 1:	1000	
Symbol colours	default	
Use blocks for point styles		
Colours by layer		
Linetypes by layer		
Features as arcs		
Create string super text		
Write Completed Successfully		
Write Finish	Help	Select Wr
		l

ta to list

as format

le name on Autocad 2004

rite

Copy the dxf file to the controller using Active Sync and Windows Explorer.

🚉 My Computer				
File Edit View Favorites T	ools Help			
Address 🛛 🔪	Search 🦻 Folders	B & >	< '9 📰 ·	
Folders ×	Name 🔺	Size	Туре	Modified
 Desktop My Documents 12d correspondence CyberLink My eBooks My Music My Pictures QB My Computer ACER (C:) ACER (C:) DVD-RAM Drive (E:) DVD Drive (F:) Mobile Device My Computer My Computer Mobile Device My Computer My Computer Mobile Device My Computer Databases 	 Databases Disk My Documents Network profiles Program Files Temp Windows Control Panel 	23 bytes	System Folder File Folder File Folder File Folder File Folder File Folder File Folder Shortcut	1/06/195

Refer to Trimble documentation for target location of file

On the controller open the job to setout

Select Files=>Open Job then pick the required job

🎯 Job: HOUS	<u>N</u> ew job	ab	? _ ×	🔊 Select job		ab	? _ ×
	<u>O</u> pen job			Name	Size	Modified	
	<u>H</u> eview current job	2	4	3DSETOUT	2kb	2/11/2007	
	QC Graph	ľ –	1.5	HOUSE	133kb	2/11/2007	- <u>A</u>
<u>F</u> iles	Map of current job	ion		ROAD DESIGN	6kb	18/10/2007	
	Properties of current job		Man	TDIMBLE	4 KD	19/10/2007 1/11/2007	Man
M 🕹 🕹	Lopy between jobs		Manu		4 KU	1/11/2007	<u>Manu</u>
	<u>Inport / Export</u>	- 1	Menu				Menu
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<u>S</u> urvey	<u>C</u> ogo <u>I</u> nstrum	ent	S <u>w</u> itch to	<		>	S <u>w</u> itch to
Exit			Enter	Esc Copy Dele	ete Nev	N	Select

Select File=>Properties of current job



Select Active map then select dxf file. The layers can be then toggled on or off

TAKK	🗟 Jo	b properties			a b	? _ ×
	Job name: 3DSETOUT			-		
Properties				_	a.	
	Coor	d. sys.:	, ,	Scale: 1.0000000000		
	Units	(Dist.):		Meters		
Linked files:			1			
Active man:					<u>M</u> ap	
		о шар. м		None	-1	M <u>e</u> nu
	Feati	ure library:		None	-	F <u>a</u> vorites
	Cogo	settings:		Ground1	12 •	S <u>w</u> itch to
	Esc					Accept

🛞 Active map 🛛 🔹 a b	? _ X
🗆 🖓 3DSETOUT.dxf	
×o	4
🖓 base	
▪ HOUSE.dxf	
	<u>M</u> ap
	M <u>e</u> nu
	F <u>a</u> vorites
	S <u>w</u> itch to
Esc All None Options	Accept

The strings can then be seen in the display and used for 2d / 3d setout



2.5 TIN upload

Select option Survey=>Upload=>Create triangle upload file





Select File Type **Trimble binary *.ttm** Tick the check box to Use Trimble Link Tick check box to **Upload directly to Trimble device** Type in a TIN name to create on the controller Type in the TTM output file name Select the TIN Select the polygon around the edge of the TIN Select **Write**

Select Yes to confirm the number of triangles

Select the controller then select **Open**



Type in the file name and select appropriate file format version if applicable

Save As		<u>? ×</u>
Look in:	TRIMBLE DATA CARD	
File name:	TIN	Save
Files of type:	Triangulated Terrain Model Files	Cancel

Select Save

The TIN can now be used for height when setting out using the controller



2.6 Road sections and strings (Simple road)

Create upload file for road alignment and associated sections Select option Survey=>Upload=>Create Road upload file (new)



Select File Type Trimble Link Tick check box to Upload directly to Trimble device

Select the Alignment string Type in the road name Tick check box to Report vertical alignment Tick check box to Report X-sections Select the model for the cross sections

Warnin	g 🔼 💽 🔁
1	Trimble Survey Controller coordinate system data is not available for this project. The coordinate system can be set up later on the Trimble Survey Controller.
	ОК

Select OK to accept the warning



Select the controller then select **Open**

Save As		<u>? ×</u>
Look in:	STRIMBLE DATA CARD	
1 HOUSE		
File name:	12D R0AD	Save
Files of type:	Survey Controller Files	Lancel

Type in the Road name to create then select Save

🎯 Sta	ake out r	road		A	? _ ×
Road n	ame:		Code: LEBR		-
Stake:					S S
Static	on and o	offset 🔻			- 1.500
Target	height:				1 1.500
1.500	m	*			Мар
Station	:	NC1			Menu
U+14L	J.000m (XS)			menu
Offset	(right):	Test		1/2	Favorites
3.500	m				Switch to
Esc	Sta-	Sta+	Offs»	Options	Start

The road can now be set out using the controller

2.6 Road strings (Complex road)

The genio format is used to create an upload file with alignment strings and design strings. This is done in two parts

Create genio file of alignment

Write Genio File for	
Data to write	위 🔌 🔽 😾 AD CL->ROAD1 👔
File	ROAD1.mos
Alignment/arc dimension	6d 🔽
Output super strings with arcs as 3d	
Chainage interval	<u>۴</u>
Chord/arc tolerance	F
Terminator value	0
Insert DELETE/CREATE	
77 format	
Convert 2d to 3d	
TIJL:L	

Select alignment string Type in file name Change alignment/arc dimension to 6d

Tick check box for 77 format Select Write





Select model for road strings

Keep previous file name

Change alignment/arc dimension to 3d

Select Write

Select **Yes** to append to the existing file

DON'T FINISH PANEL YET!

Copy the genio file to the controller using Active Sync and Windows Explorer.

🚉 My Computer				
File Edit View Favorites To	ools Help			
🕒 🚱 Back 🔹 🕥 - 🏂 🔎	Search 陵 Folders	B 🖻 >	< 🍤 📰 ·	
Address 🕗 🔪				
Folders ×	Name 🔺	Size	Туре	Modified
Desktop My Documents 12d correspondence CyberLink My eBooks My Music My Pictures QB	 Databases Disk My Documents Profiles Program Files Temp Windows Control Panel 	23 bytes	File Folder File Folder File Folder File Folder File Folder File Folder File Folder Shortcut	1/06/195

Refer to Trimble documentation for target location of file

On the controller the genio file can be selected when in the Roads Stakeout menu

😒 Select a road			AB	? _ ×
Name	Size	Туре	Modi	-
ROAD1	1684 kb	xml	19/10	🔏 s
ROAD1	596 kb	mos	3/11/2	👻 1.500
				♀ +0 1 1.500
				<u>M</u> ap
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<			>	S <u>w</u> itch to
Esc				Stakeout

3 Downloading

3.1 Setting up data collector

Select option Survey=>Setup

🗖 Survey Data Setup 📃 📘	X
Data collector	Select Choice 🛛 🛛
Set Finish Help	Geodimeter 12D Geodimeter 12D Old Leica GSI 12D Leica GSI 12D Codes before measurements Leica GSI 12D Codes before measurements Alpha Numeric Point ID's Nikon AP700 Feature String Psion Sokkia Card Reader Sokkia Contourable String Feature Sokkia Feature String Sokkia Feature String Sokkia Feature String Sokkia Feature String Sokkia SDRMap Emulation Sokkia SDRMap Emulation Sokkia String Contourable Feature Sokkia String Contourable Feature Sokkia String Contourable Feature Sokkia String Ceature String Topcon FC-2 Feature String Topcon FC-2 Feature String Topcon FC-5 Feature String Topcon FC-6 Feature String Topcon GTS-211 Feature String Topcon GTS-210 Feature String Topcon GTS-700 Feature String
	[Edit]

Select the Data collector choice icon then select Trimble Link Feature String

Select Set then Finish

3.2 Downloading raw data

Select Survey=>Download raw

🔲 Survey Data Download	
Download as reduced coords Trimble Data Transfer Utility	
Install geoids Download Finish	Help

If downloading data from gps file the data can be reduced as vectors from the base station or by ticking the "Download as reduced coords" are reduced as coordinates

The advantage of downloading as vector observations is the ability to change target heights

If the controller software has been recently updated the Trimble link software should also be updated.

To do this click on the hyper link <u>Trimble Data Transfer Utility</u> to go to the Trimble web page and follow the instruction



Select **Download** to start the download process

Open		<u>?</u> ×
Look in:	J Devices	• 🗉 🍠 😰 🏛 🏢
F Survey I TRIMBL F Survey I 5600 GI	Controller on CDM1 .E DATA CARD Controller on ActiveSync DM on CDM 1	
File name:		Open
Files of type	:	✓ Cancel

Select the Survey Controller then select Open

Open		<u>?</u> ×
Look in:	TRIMBLE DATA CARD	• 🗈 💵 🕿 🏢
記12D ROA 日本ALL 日本 日本 日本 日本 日本 日本 日本 日本 日本 日本 日本 日本 日本	AD	
		-

Select the detail survey file then select Open

Check	(In								_ 🗆 🗙
Order /	Туре	Name	Feature Code	Height	Antenna Type	Antenna Method	Prism (mm)	-	
1	NEZ	901	STN				1		ок (
2	PLR STN	901	STN	0.000					
3	POLAR	902	STN	0.000					Cancel
4	STN	901	STN	1.615					
5	BS	902							Renumber
6	F1	902	STN	1.600			0.0		
7	F1	1002	CHK905	1.600			0.0		
8	F1	1003	01TBR	1.600			0.0		
9	F1	1004	01TBR	1.600			0.0		
10	F1	1005	01TBR	1.600			0.0		
11	F1	1006	01TBR	1.600			0.0		
12	F1	1007	01TBR	1.600			0.0		
13	F1	1008	01TBR	1.600			0.0		
14	F1	1009	01TBR	1.600			0.0		
15	F1	1010	02FE	1.600			0.0	-	

The raw file can be edited here prior to creating the field file

To finish the editing and convert to a field file select OK



The procedures for reducing the field file are given in chapter 9.4.5 of the Getting Started For Surveyors manual