Converting State Plane Coordinates to Latitude and Longitude

1. In MicroStation, go to **Applications> Geopak> Survey> Survey** and on the Survey menu bar go to **Geometry> Conversions >Geodetic** This will bring up the **Geodetic Coordinate Conversions** dialog box.

📕 Geodetic Coordinate Conversions				
<u>File</u> <u>G</u> eographic Coordinate Systems				
Source System		Target System		
System Name : EPSG:2274		System Name : LL84		
NAD83 / Tennessee (ftUS)		WGS84 Lat/Long's, Degrees, -180 ==> +		
Projection : LM	© Ela	Projection : LL		
System Units : Foot [1]	GPK File	System Units : DEGREE [51]		
Vertical Datum : NAVD 88 ▼ Vertical Units : USFoot ▼	DEM	Vertical Datum : NAVD 88 Vertical Units : USFoot		
Source Point Name : Store North : 0.000000 East : 0.000000	Convert Convert Convert Convert	Target Point Name : Lat : 34 09 12.47637 N Lon : 92 30 31.19537 W		
Height : 0.000000		Height : 0.000000		
		Display in Output Window		

The Source System should be set automatically from the DGN file coordinate system settings and the Target System may already be set as well. If your systems are not set as shown above, go to the drop down option **Geographic Coordinate Systems> Select**.

The Select Geodetic Data dialog opens.

Select Geodetic Data	
V Use Model Coordinate System For Source Source : EPSG:2274 NAD83 / Tennessee (ttUS)	
Use Model Coordinate System For Target Target : LL84 WGS84 Lat/Long's, Degrees, -180 ==> +180	
Geoid Model : Use Projection Positive East Bin File/Path : roStation\GeoCoordinateData\Geoid\USA	
<u>OK</u> Cancel	

Select the "..." buttons to the right to set the Source & Target coordinate systems.

2. Source System:

If not set automatically, set the Source System to EPSG 2274 – NAD83 / Tennessee (ftUS)

🖳 Select Source System		
Library Search		
🗼 😥 North Carolina	Coordinate System	*
😥 😥 North Dakota		EB00 2074
📄 👘 🗊 Ohio	Name	
庄 👘 📁 Oklahoma	Description	NAD837 Tennessee (ITUS)
📄 🔅 👘 📁 Oregon	Projection	Eampert Conformal Conic
🗄 👘 📁 Pennsylvania	Source	EPSG V6 [Large and medium scale topograp
🖶 💬 Puerto Rico and Virgin Islands	Circle Clandered Decellel	
🗼 💬 Rhode Island	First Standard Parallel	36 23 UU.UUUU N
🖶 👘 📁 South Carolina	Second Standard Parallel	35 15 UU.UUUU N
😟 😥 💬 South Dakota	Origin Longitude	36 UU UU.UUUU W
📄 👘 📁 Tennessee		34 20 00.0000 N
	False Easting	1968500
EPSG:2204 - NAD27 / Tennessee	False Northing	0
	Quadrant	Positive X and Y
	Minimum Longitude	00°00'00.0000'E
	Maximum Longitude	00°00'00.0000"E
	Minimum Latitude	00°00'00.0000''N
EPSG:2915 - NAD83(HARN) / Tennessee (tUS)	Maximum Latitude	00°00'00.0000'N
	Datum	
EPSG:2843 - NAD83(HARN) / Tennessee	Datum	**
EPSG:102336 - NAD 1983 HARN StatePlane Tennessee FIPS 4100	Name	EPSG:6269
EPSG:102736 - NAD 1983 StatePlane Tennessee FIPS 4100 Feet	Description	North American Datum 1983
EPSG:32036 - NAD27 / Tennessee	Source	EPSG V6 No transformation [EPSG]
EPSG:32136 - NAD83 / Tennessee	E	
📄 💮 😥 Texas	Ellipsoid	^
📄 🗼 😥 Utah	Name	EPSG:7019
🕂 🕀 🔁 Vermont	Description	GRS 1980
🗼 👘 📁 Virginia	Equatorial Radius	6378137
🗄 👘 📁 Washington	Polar Radius	6356752.31414
😥 👘 📁 West Virginia	Eccentricity	0.081819191043494652
🗄 👘 📁 Wisconsin	Source	EPSG, Version 6 [EPSG]
🗄 👘 📁 Others	Vertical Datum	*
EPSG:2163 - US National Atlas Equal Area	Vertical Datum	North Amorican Victical Datum -6 1000
EPSG:102008 - North America Albers Equal Area Conic	vertical Datum	North American Vertical Datum of 1988
EPSG:102009 - North America Lambert Conformal Conic	~	
۰ III ا		
Ok Cancel		

Double click the desired coordinate system or select and click **OK**.

3. Target System:

If not set already, set the Target System to LL84 – WGS84 Lat/Long's Degrees. -180 ==> +180

Select Target System			
ibrary Search			
🗄 👘 📁 Indian Ocean	-	Coordinate System	
i midle East		Name	11.84
		Description	WGS84 Lat / ong's Degrees -180 ==> +1
		Projection	Geographic (Latitude/Longitude)
E South America		Source	Mentor Software
World		Units	Degree
E Coordinate Systems Based upon Unknown datums		Origin Longitude	00°00'00.0000"E
LL - Generic Lat/Long's, Degrees, -180 ==> +180		Minimum Longitude	00°00'00.0000"E
LL-2/U - Generic Lat/Long's, Degrees, -2/U ==> +2/U		Maximum Longitude	00°00'00.0000"E
LL-360 - Generic Lat/Long's, Degrees, 0 ==> +360		Minimum Latitude	90°00'00.0000"S
LL/2 - WG5/2 Lat/Long's, Degrees, -180 ==> +180		Maximum Latitude	90°00'00.0000"N
WDLL West Destine Canada Lat / Lands Destroya 100 > 100			
WPLL - West Positive Generic Lat/Long s, Degrees, -180 ==> +180		Datum	
WPLL27 - West Positive NAD27 Lat/Long's, Degrees, -160 ==> +160		Name	WGS94
WPLL05 - West Positive WAD05 Lat/Long's, Degrees, -100 ==> +100		Description	World Goodatic System of 1994
WFLL04 - West Fostive WG304 Lat/ Long S, Degrees, -100 ==> +100 EDCC-4170 Dulkawa 1042(02)		Source	IIS Defense Manning Agency, TR-8350.2
EPSG:4170 - Fulkovo 1942(03)		Jource	05 Derense Mapping Agency, The0550.2
Erso.4175*Fukovo 1342(36) Parametron Zemo 1990 I L - PZ-90		Ellipsoid	
EDCC-4740 - D7.90		•	
CRS:27 - GCS - NAD 27 for Web Map Server use		Name	WG584
CRS:83 - GCS - NAD 83 for Web Map Server use	=	Description	World Geodetic System of 1984
CRS:84 - GCS - WGS 84 for Web Map Server use		Equatorial Radius	63/813/
EPSG:27, GCS, NAD 27 (use CBS:27) for Web Man Server use		Polar Radius	6356752.3142
EPSG-83 - GCS - NAD 83 (use CRS-83) for Web Map Server use		Eccentricity	0.081819190928906743
EPSG:84 - GCS - WGS 84 (use CRS:84) for Web Map Server use		Source	US Defense Mapping Agency, TR-8350.2
EPSG-900913 - Virtual Earth World Mercator on a Sobere			
WGS72-TRE LL - WGS 72RE			
EPSG:4324 - WGS 72BE			
EPSG-4276 - GCS NSWC 97 2			
EPSG-4322 - WGS 72			
EPSG-4326 - WGS 84			
Uncategorized - Coordinate Systems not in any group			
- energenzee oooranato oyatana natin'any group	-		
۱۱ (III)			
Ok Cancel			
Cuitor			

Double click the desired coordinate system or select and click **OK**.

- 4. In the **Geodetic Coordinate Conversions** dialog, click on the **Point** option.
- 5. Set Vertical Datum under Source and Target to NAVD 88.
- 6. Set the **Vertical Units** to **USFoot**.
- 7. Enter state plane north and east coordinates you wish to convert under **Source Point**.
- 8. Set translation option in center to **Convert**.
- 9. Once all settings are made click on the top **Convert** button to generate latitude and longitude for the state plane coordinate values.

📕 Geodetic Coordinate Conversions				
File <u>G</u> eographic Coordinate Systems				
Source System		Target System		
System Name : EPSG:2274		System Name : LL84		
NAD83 / Tennessee (ftUS)		WGS84 Lat/Long's, Degrees, -180 ==> +		
Projection : LM	© Ela	Projection : LL		
System Units : Foot [1]	GPK File	System Units : DEGREE [51]		
Vertical Datum : NAVD 88	DEM	Vertical Datum : NAVD 88		
Vertical Units : USFoot		Vertical Units : USFoot		
Source Point	Convert	Target Point		
Name : Store	 Inverse 	Name :		
North : 608251.434400	Convert >	Lat : 36 00 10.10543 N		
East : 1789592.567200	< Convert	Lon: 86 36 17.47781 W		
Height : 0.000000		Height : 0.000000		
		Display in Output Window		

10. A text window will appear with the results of the conversion. To save these results to a text file, go to **File> Save** in the Geodetic Coordinate Conversions dialog, browse to your project folder and give the file a name.

📕 Geodetic Conversion Output
Source Point System [NAD83 / Tennessee (ftUS)] Vertical Datum [NAVD 88] Latitude [36 00 10.10543 N] Longitude [86 36 17.47781 W] Elevation(Z) [0.0000] [US Survey Foot] North [608251.4344] East [1789592.5672] [Foot] Scale Factor [NA] Convergence Angle [NA] Geoid Height Not Computed. Elevation Factor [1.000000000] Combined Factor [NA] Target Point System [WGS84 Lat/Long's, Degrees, -180 ==> +180] Vertical Datum [NAVD 88] Latitude [36 00 10.10543 N] Longitude [86 36 17.47781 W] Elevation(Z) [0.0000] [US Survey Foot]

11. To clear the text window for another conversion go to **File> New**.

Note:

To convert from latitude and longitude to state plane coordinates, use a blank space between degrees, minutes and seconds under **Target Point** and use the bottom Convert button.

Converting Latitude and Longitude Coordinates to Decimal Degrees with Google Maps

Example:

Enter latitude of 36°09'55.23" N and longitude 86°46'49.83" W to the search box without degree, minute and second as shows below then click search. The decimal degrees appear at the bottom of the image underlined in red.



Finding Latitude and Longitude Coordinates in Decimal Degrees with Google Earth

1. Specify the coordinates to be shown in decimal degrees. In Google Earth, go to Tools>Options.



2. Under the Show Lat/Long Heading, select decimal degrees.

Soogle Earth Options			? ×		
3D View Cache Touring	Navigation General				
Texture Colors	Anisotropic Filtering	Labels/Icon Size	Graphics Mode		
 High Color (16 bit) ● True Color (32 bit) ✓ Compress 	OffMediumHigh	 Small Medium Large 	OpenGL DirectX Use safe mode		
Show Lat/Long	Units of Measurement	Fonts	Antialiasing		
Decimal Degrees Degrees, Decimal Minutes Degrees, Decimal Minutes Universal Transverse Mercator Military Grid Reference System	System default Feet, Miles Meters, Kilometers	Choose 3D Font	OffMediumHigh		
Terrain					
Elevation Exaggeration (also scales 3D buildings and trees): 1 (0.01 - 3) Use high quality terrain (disable for quicker resolution and faster rendering) Use 3D Imagery (disable to use legacy 3D buildings)					
Atmosphere					
Use photorealistic atmosphere	Use photorealistic atmosphere rendering (EXPERIMENTAL)				
Overview Map					
Map Size: Small Zoom Relation: infinity 1:1			Large		
Restore Defaults		ОК	Cancel Apply		

3. Now when you go into Google Earth and pinpoint the center of the project, it will read the Lat/Long values as decimal degrees.

