

Survey Technical Support Notes

February 2022

Title: How to create the InCORS Survey Style

Overview

Learn how to setup the Survey Style and GNSS contact for the Indiana Department of Transportations' free RTK network (InCORS).

Equipment

Trimble Data Collector Operating Access 2020 or Newer

Results

Allows User to have access to INDOTs' free RTK network provided that the User has contacted INDOT and received their own Username and Password.

Procedure

Step 1: Please visit INDOTs' website (<u>http://incors.in.gov/rtk.aspx</u>) and sign up for your Username and Password.

RTK Access
To get access to our RTK Service you must first agree to our User Agreement and Data Disclaimers. Complete the [User Agreement], print, sign and
return it to our office for processing by mail, fax or e-mail to:
Land & Aerial Survey Office
InCORS Network Administrator

InCORS Network Administrator 120 South Shortridge Road Indianapolis, IN 46219-6705 Phone: 317-610-7251, ext. 293 Fax: 317-356-9351 E-mail: incors@indot.in.gov

Step 2: Configure your GNSS Contact as Follows:

1. Tap the Menu button in the top left

Trimble Access						-	
	Projects		C	*			÷
New	Filter project	Last used	^	Y			
Ō	Seiler	3:	:01 PM				
Esc						En	ter

2. Tap the Settings button

S Trimble Access				-	D X
Project Seiler	Favorites		- /	Return to	
^{Job} Seiler	1	2	3	Projects	
★ Favorites				Man	
📁 Job data	Review job	Point manager	Key in note	Мар	_
🌍 General Survey :	p 4	5 5	6		
🖾 Key in	Measure topo	Measure codes	Stake out point		
🗯 Cogo	i		· · ·		
🎁 Measure					
🍺 Stakeout					
👔 Instrument					
X Settings					
Help					
About					
Exit					

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3. Tap the Connections Button

Trimble Access				-	
Project Seiler	Survey Styles	C 🔒			:
^{Job} Seiler	Templates	d 🔨 🍸			
🛧 Favorites	Connections				
📁 Job data	Language	3:01 PM			
🍈 General Survey :	Sound & vibration				
🖾 Key in					
🏄 Cogo					
📬 Measure					
🍺 Stakeout					
👔 Instrument					
X Settings					
Help					
About					
Exit					

4. Tap New

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onnections					$\overrightarrow{\Sigma}$
Radio settings Wi	-Fi Auto-connect	GNSS contacts	Auxiliary GPS		
		^	Details	Туре	
New	Delete	Сору	Internet setup		
	Radio settings Wi	New Delete	Radio settings Wi-Fi Auto-connect GNSS contacts New Delete Copy	New Delete Copy Internet setup	Madio settings Wi-Fi Auto-connect GNSS contacts Auxiliary GPS

5. Input the GNSS Contact Name then tap the Corrections tab

Trimble Access	_	o x
Edit GNSS contact		
Network connection Corrections		
GNSS contact name	Contact type	
InCORS	Internet rover 💌	
Network connection	-	
Controller Internet		
Fsc	Entr	ər
		-1

6. Input your NTRIP login info, the IP Address (108.59.49.226) and the IP Port (9000) and tap Enter

Trimble Access	- 🗆 X
Edit GNSS contact	
Network comparing Comparing	
NTRIP Configuration	
Use RTX (Internet)	Use NTRIP
No	Yes
Use NTRIP v1.0	Use proxy server
	No No
Connect directly to Mountpoint	NTRIP username
No	abc123
IP Address	IP Port
108.59.49.226	
Send user identity info	
Esc	Enter

4 of 10

Edit GNSS contact Network connection Orrections Use RTX (Internet) Internet Inte	Timble Access	- 🗆 X
Network connection Orrections Use RTX (Internet) Use RTX (Internet) Use NTRIP No Connect directly to Mountpoint No No NTRIP password IP Address 108.59.49.226 Send user identity info Esc Entret	Edit GNSS contact	
Network connection Orrections Use RTX (Internet) Use RTX (Internet) No Use NTRIP v1.0 Ocnnect directly to Mountpoint No No No No IP Address 108.59.49.226 Send user identity info Esc Enter		
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Use RTX (Internet) Use NTRIP Ion Ion Use NTRIP v1.0 Ion Ion Ion Ion Ion Ion Ion Intrip password Ion Ion Ion <t< td=""><td>NTRIP Configuration</td><td></td></t<>	NTRIP Configuration	
No Use NTRIP v1.0 No Connect directly to Mountpoint No No NTRIP password IP Address 108.59.49.226 Send user identity info Esc Esc Esc Enter	Use RTX (Internet)	Use NTRIP
Use NTRIP v1.0 Connect directly to Mountpoint No NTRIP password IP Address 108.59.49.226 Send user identity info Esc	No	Yes
Connect directly to Mountpoint No No NTRIP password IP Address 108.59.49.226 Send user identity info	Use NTRIP v1.0	Use proxy server
Connect directly to Mountpoint No NTRIP password IP Address 108.59.49.226 Send user identity info Image: Send user identity info Esc Esc Image: Desc <		No
No NTRIP password IP Address 108.59.49.226 Send user identity info Esc Enter	Connect directly to Mountpoint	NTRIP username
NTRIP password IP Address 108.59.49.226 Send user identity info Esc Esc Enter	No	abc123
IP Address 108.59.49.226 Send user identity info Esc Esc Enter	NTRIP password	
IP Address IP Port 108.59.49.226 7071 Send user identity info Esc		
108.59.49.226 7071 Send user identity info	IP Address	IP Port
Send user identity info	108.59.49.226	7071
Esc Enter	Send user identity info	
EscEnter		
EscEnter		
Esc Enter		
	Esc	Enter

NOTE: For Single Station Solutions, enter IP Port 7071

7. Your screen should now show the InCORS GNSS contact and you are ready for the next step

Trimble Access							- 0	×
≡ Conne	ections						2	~
Bluetooth Radio	settings Wi-f	Fi Auto-connect	GNSS contacts	Auxiliary GPS				
Name			^	Details	1	Гуре		
InCORS				Controller In	nternet l	nternet rover		
Esc	New	Delete	Сору	Internet setup			Edit	

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Step 3: Create a corresponding InCORS survey style

1. From the main menu, enter the settings again then tap Survey Styles

Trimble Access			- 🗆 X
Project Seiler	Survey Styles	C	:
^{Job} Seiler	Templates	d 🔨 🝸	
🛧 Favorites	Connections Feature Libraries		
📁 Job data	Language	3:01 PM	
🌍 General Survey 🛄	Sound & vibration		
🚾 Key in			
着 Cogo			
🎁 Measure			
🍺 Stakeout			
👔 Instrument			
X Settings			
Help			
About			
Exit			

2. Tap New

Trimble Access Surv	vey Styles					- • ×
Name				^ Modified		
IS Rover				11/15/2021	L	
RTK				1/10/2022		
SX10 & S	X12			11/15/2021		
VX & S Se	eries			11/15/2021		
Esc	New	Сору	Delete	 		Edit

3. Input your Style name then tap Enter

Trimble Access					-		×
≡ Style	details						
Style name			Style type GNSS	•			
Esc					En	iter	

4. Select Rover Options

Trimble Access				-		×
≡ InCC	DRS					
Rover optio	ns					
Rover data	link					
Base option	S					
Base data li	nk					
Topo point						
MultiTilt po	int					
Observed co	ontrol point					
Rapid point						
Continuous	points					
Stakeout						
Site calibrat	ion					
Duplicate p	oint tolerance					
Laser range	finder					
Echo sound	er					
Esc	Store			E	dit	

5. Set Broadcast format to Multi station (RTCI	/I) then ta	p Accept
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mble Access Rover options)			
Survey type RTK		Broadcast format Multi station (RTCM)				
Antenna			٦			
Туре		Measured to				
R12i Internal		Bottom of quick release 🔻				
Antenna height		Part number				
?	•	90914-XX				
Serial number						
?						
Tilt			7			
IMU tilt compensation		eBubble functions				
\checkmark		\checkmark				
AR viewer						
\checkmark						
Elevation mask						
Esc		Accept	t			

NOTE: For RTCM MAX and iMAX products select Broadcast format RTCM3Net

🚯 Tri	mble Access		- 🗆 X
Ξ	Rover options		
	Survey type RTK		Broadcast format RTCM3Net
	Antenna		
	Туре		Measured to
	R12i Internal 🔻		Bottom of quick release 🔻
	Antenna height		Part number
	?	•	90914-XX
	Serial number		
	?		
	Tilt		
	IMU tilt compensation		eBubble functions
	\checkmark		\checkmark
	AR viewer		
	\checkmark		
	Elevation mask		
	Esc		Accept

6. Select Rover data link

Trimble Access	-		×		
Rover options					
Rover data link					
Topo point					
MultiTilt point					
Observed control point					
Rapid point					
Continuous points					
Stakeout					
Site calibration	Site calibration				
Duplicate point tolerance					
Laser rangefinder					
Echo sounder					
NMEA outputs					
Esc Store		Edit			

7. Set type as Internet connection and tap the arrow to select GNSS Contact

Timble Access	-		<
Rover data link			
Type Internet connection GNSS contact Prompt for GNSS contact			
?			
Esc	Acc	cept	



8. Select your InCORS survey style and tap accept

Trimble Access							-		×
	nections								
Bluetooth Ra	dio settings Wi-	Fi Auto-connect	GNSS contacts	Auxiliary GPS					_
Name			^	Details	Т	уре			
InCORS	;			Controller Inte	ernet li	nternet rover			
								_	
Esc	New	Delete	Сору	Internet setup	Edit		Ace	cept	

Your GNSS contact and survey style are now configured correctly and you are ready to take measurements with InCORS corrections.

Trimble Access	- 🗆 X
Rover data link	
Type Internet connection ▼ GNSS contact InCORS	Prompt for GNSS contact
Esc	Accept