## Using Multiple GNSS Rovers with One GNSS Base



In X-PAD Ultimate Open / Create your Job and go to Settings/GNSS and Total Stations. Select your UHF Base Profile and Modify to review your settings.

11:35			0 ‡¶⊿ ±1 ≣
Modif	v profile		
	, , , , , , , , , , , , , , , , , , , ,		-
Profile			
Profile na	me		
UHFBASE	1054		
Mode	GNSS	Rase	
woue	01100	Dase	
Brand	CHC		× 1
Model	Smart	GNSS	~
model	onnart	01100	
$\triangleleft$			$\triangleright$
7			Next
	•		

On the first page you will see your Profile Name, Mode, Brand, and Model.



On the Device Page you will now see your Communication Type (Bluetooth) and Device Serial Number.

Select Next.



On the RTK – Corrections Page select Internal Radio.

™ Modify p	° ≈⊿∞ = profile	On the RTK Radio Page.
<b>RTK Radio</b>		Select your Channel.
Channel	2 - 464.55000 💙 >	Baud Rate.
Baud rate	9600	
Protocol	Satel 3AS	Protocol
Spacing	12.5	Spacing Power (I am using 1 watt at the Base)
Power (mW)	1000 🗸	FFC (Forward From Correction) is turned to the Off position
FEC	0	FEC (Forward Error Correction) is turned to the Off position.
Format	SCMRX V	Format
Use Base ID	0	No Base ID
Base ID	V 0 ^	
Base ID	0	
		Select Next.
$\bigtriangledown$	Tools Next	
4	• •	

11:36	0 ‡¶⊿ ±1 🖷
🔀 Modify profile	
Parameters	
Satellites Cut-off angle(°)	10
Use GLONASS	
Use BEIDOU	
Use GALILEO	
Use SBAS	0
Position update freq.	
Every second	~
$\triangleleft$	⊳ Next
4 0	

On the Parameters Page. Select your Satellite Cut-off Angle (Elevation Mask) Use GLONASS USE BEIDOU USE GALILEO Position Update is set to Every Second. Select Next.

11:37 Modify	profile	0≑⊊∡≠⊥ ≦	(
Antenna			
Model	Integrated	~	
Height		5.840ft	
1		~	
<u> </u>		Accept	
•	•		

On the Antenna Page, you will have the opportunity to enter the Model and H.I.

Select Accept.

44.07			
X.	Instruments		2.L -
Rover	NETBASE1054 CHC - Smart GNSS BT: GNSS-3461054		>
Rover	NETROVER1055 CHC - Smart GNSS BT: GNSS-3461055		>
Rov	UHFROVER1055 CHC - Smart CNSS Configure receiver		>
Bas	Do you want to configure rece	iver?	>
Rover	NETBASE3990 CHC - Smart GNSS BT: GNSS-3493990		>
Rover	UHFROVER3993 CHC - Smart GNSS BT: GNSS-3493993		>
-	UHFBASE3990 CHC - Smart GNSS		5
	⊂ ■ Scan QR	+ Add	
	< • •		

You will then be asked if you wish to configure the receiver. I have selected "Yes" in order to save my changes.



Returning to the Survey Menu I select Start Base.

11:38		0 🖘 🖌	21 6
🔀 Start base			
Base name			
Base ID	~	0 🔨	
Base ID	0000		
Code		>	
Antenna H.		5.840ft >	
Post-Process	ing data		
Log data for Post-Processin	g	0	
$\bigtriangledown$		$\triangleright$	
4	•		

Base ID is 0.

Code is left Blank.

Antenna Height is Measured HI.

Select the Arrow to the right at bottom of screen.

11:38				0 ≑⊊⊿ 2⊥ ≣
🔀 Start ba	ase			
Base posit	ion			
Ref.Point	1			>
	‡.,	₿L	LH.	
Latitude		N	29°31'	58.9223"
Longitude		W	81°14'	30.2705"
Height			-	64.195ft
N			18901	94.764ft
E			5792	90.668ft
Z				29.902ft
$\bigtriangledown$		Tools		$\bigtriangleup$
4		٠		

I have selected a Known position that I established from an RTN and selected that point number.

Then select the Arrow to the right.

Start base		0 ‡¶ <b>∡</b> ±i =
Local system		
Create local system base	n on	1
Local point	1	>
Ν		1890194.764ft
E		579290.668ft
z		29.902ft
$\bigtriangledown$		~
4	•	Start base

I have also selected to create a Local System on Base (Grid to Ground) by entering the Base Point Number that was established earlier.

Then select Start Base.



Once the Base has been stared you will see the message that Base has been started successfully.

11:39 🕥		0 ≑⊊⊿ ±⊥ ≦
X	Instruments	
<b>1</b>	NMEA - NMEA Simulation	<u>\</u>
Rover	NMEA - NMEA Simulation	/
	NETBASE1054	
<b>BI</b> '	CHC - Smart GNSS	>
Rover	BT: GNSS-3461054	
	NETROVER1055	
<b>DI</b> '	CHC - Smart GNSS	>
Rover	BT: GNSS-3461055	
	UHFROVER1055	
	CHC - Smart GNSS	>
Rover	BT: GNSS-3461055	÷
	UHEBASE1054	
弄	CHC - Smart GNSS	>
Base	BT: GNSS-3461054	*
<b>T</b>	NETBASE3990	
Dever		
Rover	B1: GNSS-3493990	
	UHFROVER3993	
	CHC - Smart GNSS	>
Rover		
		+
	Scan QR	Add
	▲ ● ■	

Then returning to Settings / Instruments, select your UHF Rover Profile and Modify.

11:39 🚷		0 🗟 🖌 🗐
🔀 Modif	y profile	
Profile		
Profile nar	ne R1055	
Mode	GNSS Rover	×
Brand	CHC	~
Model	Smart GNSS	~
<		$\bigtriangleup$
7		Next
	• •	

On the Profile Page you will see the Name, Mode, Brand, and Model.

Select Next.

Modify pr	rofile	©‡⊊∡≵⊥ ≣
Device		
Communicatio	on	
Bluetooth		~
Device		
GNSS-346105	55	~
$\bigtriangledown$	∦ Add device	⊳ Next
•	•	

On the Device Page you will now see your Communication Type (Bluetooth) and Device Serial Number.



On the RTK receive Corrections Page, select Internal Radio just as you did when setting the Base.

Select Next.

11	:40 😒		0 +94 ±1 =
2	Modify p	rofile	
	RTK Radio		
	Channel	2 - 464.55000	× >
	Baud rate	9600	~
	Protocol	Satel 3AS	~
	Spacing	12.5	>
	Power (mW)	500	~
	FEC		0
	Format	SCMRX	~
	Use Base ID		0
	Base ID	<b>V</b>	0
	<	**	$\triangleright$
	7	Tools	Next
	•	•	

On the RTK Radio Page.

Ensure all your settings are the same as the Base Receiver.

On the rover I decrease the power to half watt.



.

On the Parameters Page I have my settings set the same as the Base.

Satellite Cut-Off Angle is 10 Degrees.

Use GLONASS

Use BEIDOU

Use GALILEO

Position Update is set to every second.

Select Next.

11:41 🚳			0 †¶⊿ #L =
🔀 Modify	profile		
Antenna			
Model	Integr	rated	~
Height			5.249ft
Additional o	ffset		0.000ft
$\bigtriangledown$			~
			Accept

On the next page I enter the HI of my Rod.

Select Accept. And Select Yes to Configure Receiver.

11:48 🔇				⊚ ≑	¶⊿ 2⊥ ≣
🔀 GN	SS Surv	/ey	365	1	4
H 0.01	9ft 1ft		ed	GDO PDO	P 1.87 。 P 1.11 •
N 29°	31'58.9901"	W 81°14	30.207	73" -64.40	4ft >
		•			
<b>7</b>	2				OFF
Point	2	05			
Code	> BA	SE			
HT'	5.249ft	¢		Point	
$\bigtriangledown$	Tools	Mea	sure	Meas. a	Store
	•	•			

Selecting the Survey Points Menu you will now see RTK Fixed at the Top Center of the Screen.

Adding Second Rover to Base

New pro	file	
Profile		
Profile name		
UHF ROVER		
Mode	GNSS Rover	~
Brand	CHC	~
Model	Smart GNSS	~
$\bigtriangledown$		$\triangleright$
		Next

Using another Data Collector and Second GNSS Rover.

Create / Open a Job

Go Settings/GNSS and Total Stations

Create or Modify a UHF Rover Profile with Name, Brand, and Model.



On the Device Page you will now see your Communication Type (Bluetooth) and Device Serial Number.

Select Next



On the RTK Corrections Page select Internal Radio.



On the RTK Radio Page ensure your Channel, Baud Rate, Protocol, Spacing, Power at half watt, FEC in Off Position, Message Type is the same as the Base, and No Base ID is used.

Select Next.

11:41 😒	0 ⊊ <b>⊥</b> ≞
🔀 Modify profile	
Parameters	
Satellites Cut-off angle(°)	10
Use GLONASS	1
Use BEIDOU	1
Use GALILEO	1
Use SBAS	0
Position update freq.	
Every second	~
$\triangleleft$	⊳ Next
< ●	

On the Parameters Page I have my settings set the same as the Base.

Satellite Cut-Off Angle is 10 Degrees.

Use GLONASS

Use BEIDOU

Use GALILEO

Position Update is set to every second.

11:41 💿		0 ‡¶ <b>1</b> 21 🕯
🔀 Modify p	orofile	
Antenna		
Model	Integrated	<b>~</b>
Height		5.249ft
Additional of	fset	0.000ft
$\bigtriangledown$		<b>~</b>
•	•	Accept

On the Antenna Page I enter the HI of my Rod.

Select Accept.

🔀 GNSS Su 🎇 🏂 🗒
H 0.014ft
N 1890202.201ft E 579299.441ft Z 29.661ft 🗦
2D
•
<b>-</b>
20ft
Point > 100
Code 🗲
ਸ <mark>ਾ</mark> 5.249ft - <b>਼ੇ</b> - Point
Tools Measure Meas. & Store

Returning to the Survey Points Screen I now see RTK Fixed in the Top Center of the Screen.

You now have added multiple Rovers to Communicate with a Single Base Receiver.

It is not necessary to set the Base with Second Rover once you have the Base Set and Broadcasting.