

HPT435 Base TRIUMPH-1 Rover

Configuration Example

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BASE & ROVER CONFIGURATION EXAMPLE

HPT435 as a Base Configuration

- 1. Connect the TRIUMPH-1 receiver to computer. See for details the TRIUMPH-1 Operator's Manual.
- 2. Connect the external HPT435 UHF radio to receiver's port B with cable Accessory Data-Ser cable, ODU-7/D15 (1.8 m) p/n 14-578108-01.



Figure 4-1. Accessory Data-Ser cable, ODU-7/D15

Note: The port B is optional. Make sure you have such option purchased.

3. Power the HPT435. You can use the rechargeable battery type Power Sonic PS-12400 or similar and Accessory Power Cable, PL-700/Battery Clips (2.5m), p/n14-578111-01.



Figure 4-2. Power cable, PL-700/Battery clips

Warning: Powering HPT435 please observe polarity!

For PS-12400 battery charging use the charger "Power-Sonic Chargers" type PSC-124000A.

- 4. Turn on the TRIUMPH-1 receiver.
- 5. Start ModemVU.

6. Select *HPT435* and click OK (Figure 4-3).

General	
Triumph 1X li	nternal Radio 📃
	HPT435 🔽
	HPT402 🔲
	ALPHA 🔲
	GISmore 🔲

Figure 4-3. ModemVU. Options window

7. Select the port the TRIUMPH-1 receiver is connected to and click *Connect* (Figure 4-4).

COM
COMA
COIVI4 💌

Figure 4-4. ModemVU. Connection

8. In the *Radio Link* tab set the following parameters, and click *Apply* (Figure 4-5):

adio Link	Serial Interface & Tools Identification				
Protocol	Simplex Tra	nsmitter	~		
	Frequency (MH	z): 452,7	87500		
	Output power (dBm / V	v): 45 / 35,0	~		
	Modulation Typ	e: DQPSK	~		
	Link Ra	te: 19200	~		
	Link Spac	e: 25,0 kHz	~		
	Forward Error Correction	in: 🗹 🛛 Scramb	ling: 🗹		

Figure 4-5. Radio Link tab settings

- Protocol: Simplex Transmitter
- Frequency (MHz): 406 to 470
- Output power (dBm/W): 45/35.00
- Modulation Type: DQPSK
- Link Rate: 19200
- Link Space: 25.0 kHz
- Forward Error Corrections: ON
- Scrambling: ON
- 9. Quit ModemVU by clicking *Exit* button.

10. Start TriVU. Select port the TRIUMPH-1 receiver is connected to and click OK (Figure 4-6).



Figure 4-6. TriVU. Selecting port

- 11. Click *Configuration* ► *Receiver*.
- 12. In the *Base* tab click the *Get from receiver* button. Reference geodetic coordinates appear. Click *Apply* (Figure 4-7).

Receiver configuration	
General MinPad Positioning Base Rover Po Base Station Coordinates (Antenna Phase Center) - GPS/GLO at one time Averaged GPS/GLO separately Avg. Span(s): [80] GPS GLONASS Get from receiver Performere Geodedic Cominates Lat: 55 °47 ' 54.74418 "N W84 V Lon: 37 °31 ' 13.76936 "E V Alt: +380.2918 m Datum Parameters	rts Event Advanced RTCM Settings Station ID: 0 Weasurements Sent V CA/L1 P/L1 P/L2 Max.number 0 System Used of Satelites: 0 System Used Max.number 0 GRAFT GLONASS Health: Good P Pseudo-range smcothing MR Setting Station ID: 0 Measurements Sent Station ID: 0 CA/L1 P/L1 P/L2 Motion: Unknown CLONASS msg.: 3 _
L1 to L2 Antenna Phase Center offsets, meters East: J.0000 North: 0.0000 Height: 0 0000 OK Exit Save Fefresh Apply Set all par	Short ID: COGO: CO

Figure 4-7. Base tab

13. In the *Ports* tab set the Port B *Output mode* to RTK CMR, and click *Apply*, then OK (Figure 4-8).

Seneral MinPad Position	ng Base Rover Ports	Event	Advanced	
Serial USB Ethernet	ICP CAN BLI	wi⊢i		
Serial A Input: Command Output: User Defined	- Period(s):	Baud rate:	115200 ¥	
Serial B Input: Command Output: RTK CMR (10,0,1) - Poricd(s): 1.00	Baud rate:	115200 ▼ ▼ RI5/CI5	
Serial Command		Baud rate:	115200 -	
Output: None	▼ Pericd(s):		F RTS/CTS	
Serial D Input: Command 💌	Infrared	Baud rate:	115200 -	
A L L None	▼ Pericd(s):		E RTS/CTS	

Figure 4-8. Rover tab

TRIUMPH-1 internal UHF radio as a Rover Configuration

- 1. Connect the receiver and computer as described in TRIUMPH-1 Operator's Manual.
- 2. Start ModemVU.

3. Select Triumph 1X Internal Radio and click OK (Figure 4-9).

7 Options)
General	
Triumph 1X Internal Radio 🔽	
HPT435	
HPT402	
ALPHA	
GISmore	
OK Cancel	

Figure 4-9. ModemVU. Options window

4. Select the port receiver is connected to and click *Connect* (Figure 4-10).

7 (onnection 🛛 🛽
	Port's setting
	COM4 💌
[Connect Cancel



5. Select the ON mode for Radio, click Apply and click Connect Radio button (Figure 4-11).

J Trium	iph Int	erna	l Radio 🛛 📓	
Radio	ON	~	Connect Radio	
GSM	OFF	~	Connect GSM	
Ар	oly		Exit	

Figure 4-11. ModemVU TRIUMPH Internal Radio selection

6. In the *Radio Link* tab set the following parameters, and click *Apply* (Figure 4-12):

dio Link	Serial Interface & Tools	Identification	
Protocol:	Simplex R	eceiver	~
	Frequency (MH	z): 452,78	7500
	Output power (dBm / V	v): 30 / 1,00	~
	Modulation Typ	e: DQPSK	~
	Link Ra	te: 19200	~
	Link Spac	e: 25,0 kHz	~
	Forward Error Correction	n: 🗹 Scrambli	ng: 🗹

Figure 4-12. Radio Link tab settings

- Protocol: Simplex Receiver
- Frequency (MHz): 406 to 470
- Output power (dBm/W): 30/1.00
- Modulation Type: DQPSK
- Link Rate: 19200
- Link Space: 25.0 kHz
- Forward Error Corrections: ON
- Scrambling: ON
- 7. Quit ModemVU by clicking *Exit* button.
- 8. Start TriVU. Select port the receiver is connected to and click OK (Figure 4-6).

<u>1</u> - Select Server	Add Server
LServer 💌	Acd IP RCV
Manual mode only	
2 - Get list of receivers from Ser	/er-GPS
3 - Select Receivers or press Of	to connect
TCP:83.220.250.6:8002:XXPD CDM9:115200:1 CDM9:115200:1 CDM6:115200:1 CDM6:115200:1 CDM5:115200:1 COM3:115200:1 COM3:115200:1 CDM2:115200:1 CDM1:115200:1 CDM1:115200:1	DC7
ОКС	ancel

Figure 4-13. TriVU. Selecting port

- 9. Click *Configuration Receiver*.
- 10. In the Positioning tab set RTK fixed Positioning Mode, then click Apply (Figure 4-14).

General MinPad Positioni Positioning Mode E Standalone V DGPS (Code Diff.)	ing Base Rom Enable Solutions Standalone	ver F Sate	Ports Ilite r ellites	E E E	vent geme ked ONAS	Adant -	dvanc	ed Sa	itellite	es use Z GL	ed in (pos 55 F	Z GA
MD (WAAS Diff.) PIX Eloat RTK Fixed Positioning Masks Elv. mask(d): 5 PDOP mask: 30,00	Pose System GPS CLONASS	GPS		GLOI Use Use	VASS		ALILEO Use	pm 17 18 19	BAS	। use	pm 25 26 27	ब रा रा रा रा	ব ব ব হা
Alarm limit(m): 555.6	CA/L1 P/L1 P/L2 Iono-Free	4 5 7 8	<u> ব</u> ব ব ব ব	<u>ব</u> ব ব ব ব	12 13 14 15 16	বব ব ব ব	<u>ব</u> ব ব ব ব	20 21 22 23 24	<u>ব</u> ব ব ব ব	<u>ব</u> ব ব ব ব	28 29 30 31 32	র র র র র	<u>र</u> । र। र। र
Cur. Datum: W84 Datun Parameters OK Exit Save Ref	ono-Correction Trapo-Correction Tresh Apply Se	All t all pa	to lo arame	eters	Non to d	ie to efaul	lock	All	to us	:e	None	tou	ise

Figure 4-14. Positioning tab

11. In the *Rover* tab set Positioning Mode to RTK fixed mode (Figure 4-15), then click *Apply*:

General MinPad Positioning Base Rover Positioning Mode C Standalone C RTK Float C JGPS(Code Different(al)) RTK Fixed	Ports Event Advanced Enable Solutions Image: Constraint of the second secon
DGPS Parameters Multi-base Corrections Usage Nearest Iono Corrections Iono Corrections Iono Corrections Iono Corrections Iono Corrections Iono	RTK Parameters RTK Mode © Extrapclation © Delay © Kinemaic © High
Corrections Positions	Measurements Used GA/L1 P/L1 P/L2 Base Corrections 1.0 period(s):
Best Source: Any 💌	CMR Settings GLONASS message: 3 Reset RTK Engin

Figure 4-15. Rover tab

12. In the *Ports* tab set the *Input* mode for port D to CMR, then click *Apply* and OK (Figure 4-16).

neral MinPad Positioning Base	Rover Ports Event Advanced	
ierial A		
iput: Command 💌	Baud rate: 115200 💌	
utput: User Defined 💽 Pe	eriod(s):	
ierial B iput: Command 💌	Baud rate: 115200 💌	
utput: None 🖵 Po	pricd(s):	
erial C put: Command 💌	Baud rate: 115200 💌	
utput: None 🔽 Pe	ericd(s):	
erial D put: CMR 💌 🗖 Infrared	Baud rate: 115200 -	
utput: None 💽 💌 Pe	ericd(s):	

Figure 4-16. Ports tab

13. The receiver will obtain the RTK Fixed solution (Figure 4-17).

art	e i G	LONAS	5 6	ALIL	-0	SBAS	10	ocation	122
#	EL	AZ	CA	P1	P2	L2	L5	TC	SS
04	29+	308	48	33	33	??		10	30+
11	14	192	42	22	22	??		9	55+
13	29+	244	48	34	34	77		10	55+
16	5+	118	38	16	16	77		1	30+
17	7	264	39	22	22	36		10	30+
20	79+	172	55	48	48	??		17	55+
23	59+	244	57	46	46	??		17	55+
25	7+	200	39	15	15	77		5	30+
32	57+	122	54	46	-6	77		17	55+
RTI	K fixed)))))	017	000	2				

Figure 4-17. TriVU. RTK fixed

Base & Rover Configuration Example TRIUMPH-1 internal UHF radio as a Rover Configuration