



# **SIGMA as Rover**

**with HPT404BT connected through Bluetooth**

**Configuration Example**

**Version 1.0**

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# SIGMA AS ROVER

## Sigma Configuration

To configure the SIGMA receiver as rover, perform the following:

1. Attach the GNSS antenna to SIGMA'S antenna connector.
2. Attach the Bluetooth antenna to Bluetooth antenna connector.
3. Connect the receiver to PC using serial (RS232) or USB port. If the USB connection will be used, ensure the special USB driver is downloaded from JAVAD GNSS's website and installed ([http://javad.com/downloads/javadgnss/drivers/usb/jgnss\\_usbio.zip](http://javad.com/downloads/javadgnss/drivers/usb/jgnss_usbio.zip))
4. Power SIGMA receiver
5. Ensure you have the latest version of NetView installed on your PC. The latest version is available on <http://www.javad.com//jgnss/products/software/netview.html>)
6. Start NetView.

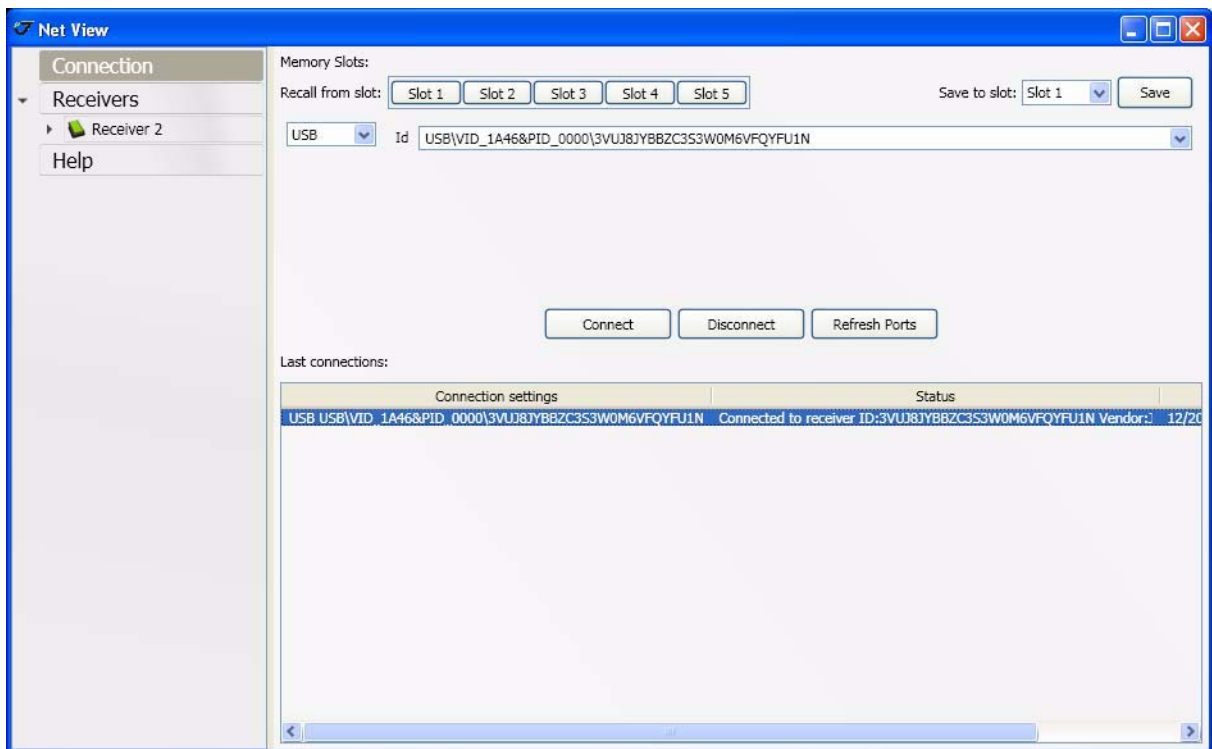


Figure 1. NetView

7. Check the satellites are tracked. Click on the receiver's name on the left. On the right the information about tracked satellites will be displayed:

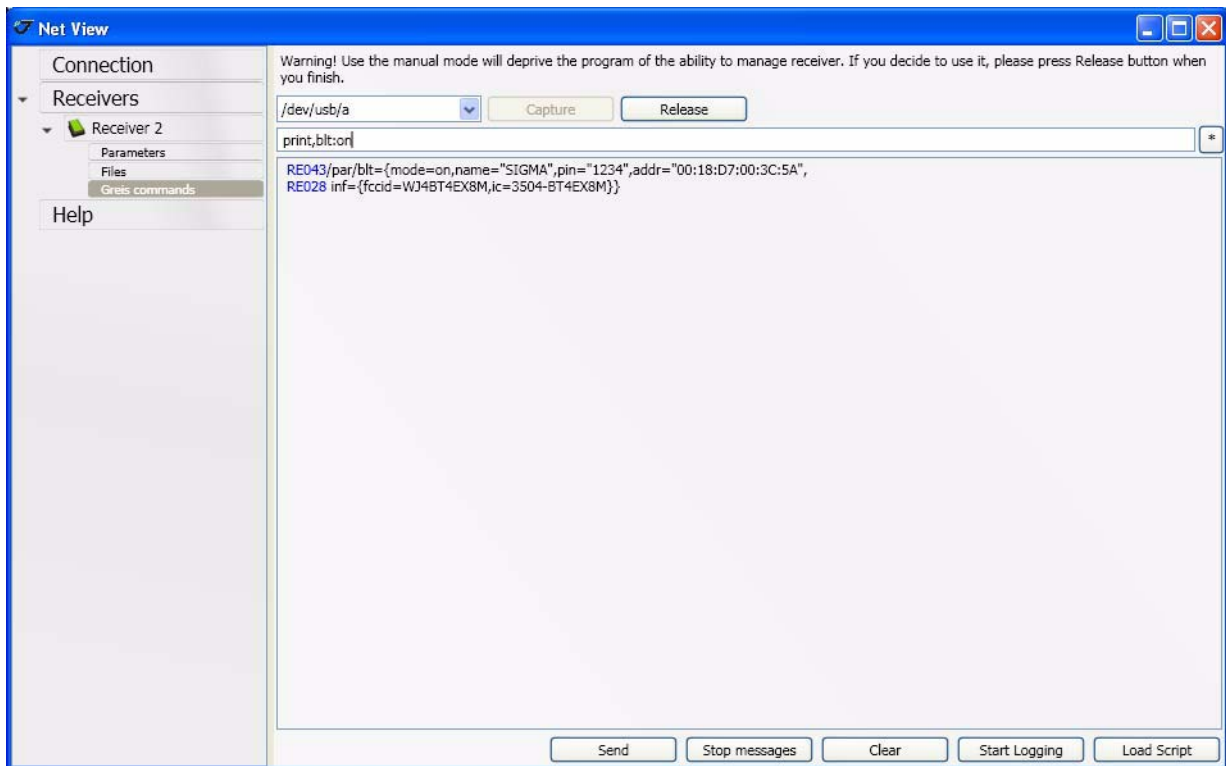
The screenshot shows the 'Net View' software interface. On the left, there is a sidebar with 'Connection', 'Receivers', and 'Help'. Under 'Receivers', 'Receiver 2' is selected. The main area displays receiver details for 'Receiver 2', including its ID, serial number, vendor (JAVADGNSS), firmware version (3.4.0 Nov,30,2011), board version (TRE\_G3TH\_5), model (SIGMA), and position. Below this, there are sections for 'Reports' and 'Actions'. The 'Measurements' tab is active, showing various data points like Latitude, Longitude, Ellipsoidal height, Position SEP, Velocity 2D, Position RMS, Velocity RMS, PDOP, and Solution. A 'Links' section is also visible. The 'Options' tab is selected, displaying a table of tracked satellites with columns for System, Number, Elevation, Azimuth, CA/L1, P/L1, P/L2, L2C, -L5, Track Time, and Status.

Sys	Num	El	Az	CA/L1	P/L1	P/L2	L2C	-L5	Track Tim	Status
GPS	7*	6	356	39	15	15	32		00:02:14	0
GPS	16*	43	294	51	35	35			00:02:14	0
GPS	26*	16	72	43	26	26			00:02:14	0
GPS	21*	78	218	52	43	43			00:02:14	0
GPS	29*	41	122	53	41	41	45		00:02:14	0
GPS	18*	34	174	49	34	34			00:02:14	0
GPS	5*	20	44	45	30	30	41		00:02:14	0
GPS	3*	18	298	46	25	25			00:02:14	0
GPS	6*	32	292	46	33	33			00:02:14	0
GPS	15	11	108	43	23	23	36		00:02:14	0
GLO	12/-1	14	354	45	44	38	40		00:02:10	0
GLO	11/0	28	298	46	45	36	37		00:02:08	0
GLO	3/5*	17	26	46	44	35	36		00:02:08	9
GLO	5/1*	36	158	54	52	44	46		00:02:08	9
GLO	4/6*	56	76	54	53	46	47		00:02:08	9
GLO	19/3*	43	100	54	53	45	46		00:02:12	0
GLO	20/2*	73	322	48	47	46	47		00:02:12	0
GLO	21/4*	22	296	45	45	35	36		00:02:12	0
GAL	1	38	286	48				38	00:02:04	19
SBAS	126		38						00:02:08	19
SBAS	124		40						00:02:10	19
SBAS	127	25	160	35					00:02:12	19

**Figure 2. Satellites**

8. Click *GREIS Commands* tab on the left and then click *Capture* on the right (Figure 3 on page 5).

9. Enter the command `print,blt:on` and click *Send*. Then copy or enter the SIGMA Bluetooth Mac Address, i.e. the value of the parameter `addr=`

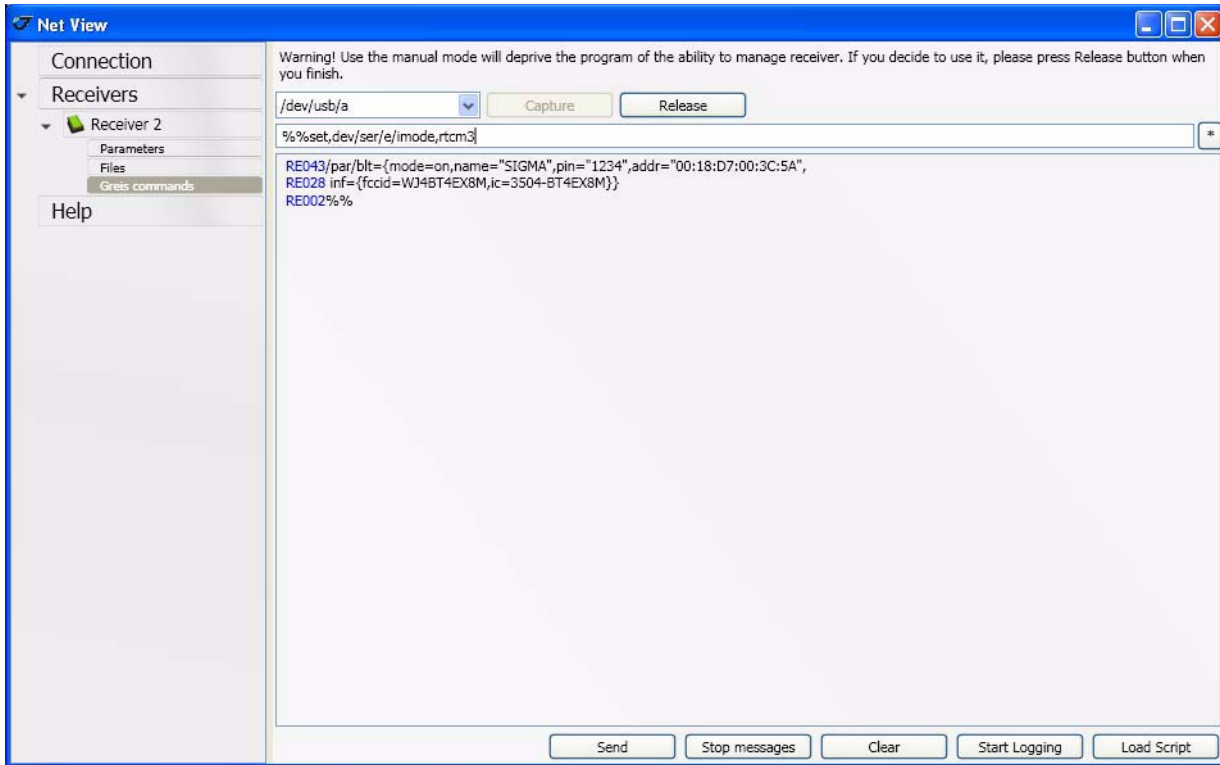


**Figure 3. GREIS Commands 1**

10. Enter the command `%set,dev/ser/e/imode,rtcm3` and click *Send*.

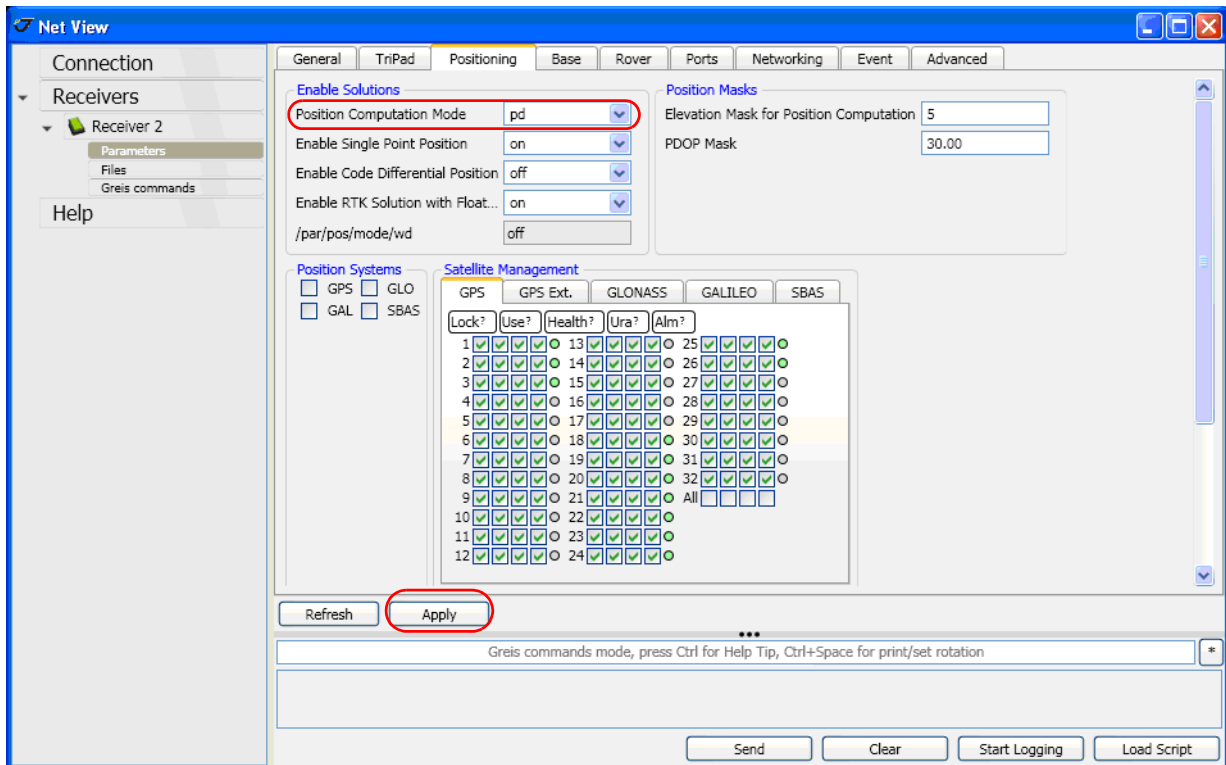
**Note:** The correction type should be the same as base transmits. In the example above the `rtcm3` is selected.

11. After the receivers reply RE002% click the *Release* button (Figure 4).



**Figure 4. GREIS Commands 2**

12. Click Parameters on the left and then select pd for *Position Computation Mode* and click *Apply*:



**Figure 5. NetView. Positioning tab**

Now HPT404BT should be configured. Do not turn off the SIGMA receiver.

## HPT404BT Configuration

To configure the HPT404BT, perform the following:

1. Attach the UHF antenna to BNC antenna connector.
2. Connect the modem to PC using serial (RS232) or USB port. If the USB connection will be used, ensure the special USB driver is downloaded from JAVAD GNSS's website and installed ([http://javad.com/downloads/javadgnss/drivers/usb/jgnss\\_usbser.zip](http://javad.com/downloads/javadgnss/drivers/usb/jgnss_usbser.zip)).

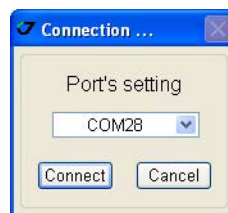
**Note:** New virtual COM port will appear after connecting HPT404BT to PC. This port should be selected to establish the USB connection with HPT404BT.

3. Power the modem.
4. Ensure you have the latest version of ModemVU installed on your PC. The latest version is available on <http://www.javad.com/jgnss/products/software/modemvu.html>
5. Start ModemVU
6. Select *HPT404BT* in the *Options* window and click *Ok* (Figure 6):



**Figure 6. ModemVU. Options**

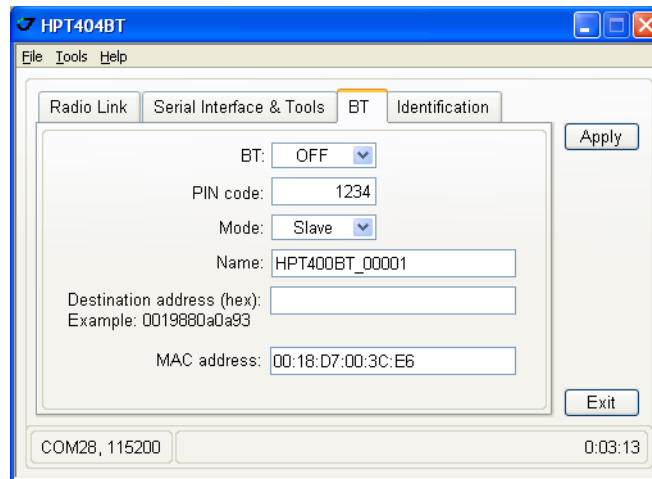
7. Connect to virtual COM port, if the USB connection is used:



8. Configure the parameters in the *Radio Link* tab. Please ensure all parameters are identical to base parameters: frequency, modulation type, link rate, link space, Forward Error Correction and Scrambling. Set the corresponding Protocol.

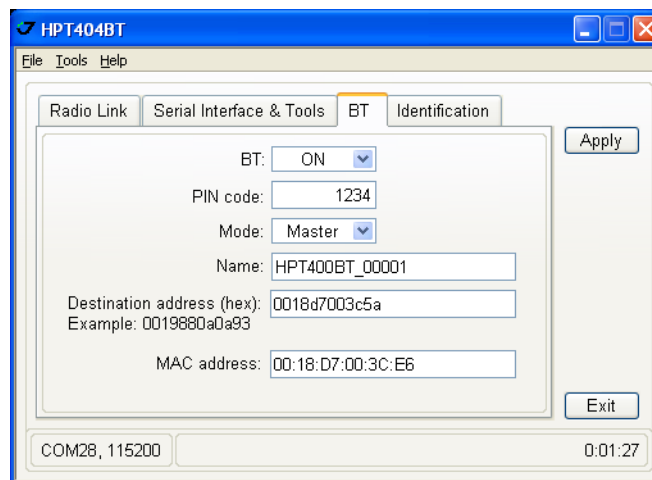


9. In the *BT* tab set the BT to off and click *Apply*:



**Figure 7. BT tab**

10. Enter the SIGMA's MAC Address to the *Destination Address* field; Set *Mode* to Master, and then BT to ON.



**Figure 8. Settings for BT tab**

11. Click *Apply* to save the settings.

# Sigma as Rover

## HPT404BT Configuration

Connect to the SIGMA via NetView. If all parameters were set correctly, SIGMA will receive the fixed solution:

The screenshot shows the NetView software interface. On the left, there is a navigation pane with 'Receiver 2' selected. The main area displays receiver details and a table of satellite measurements.

**Receiver Details:**

- Display Name: Receiver 2
- Receiver Id: 3VUJ8JYBBZC3S3W0M...
- Serial Num: 00154 (OEM 15694)
- Vendor: JAVADGNSS
- Firmware Version: 3.4.0 Nov,30,2011
- Board Version: TRE\_G3TH\_5
- Model: SIGMA
- UpTime: 0d00h06m32s
- Memory: 2,12 / 2,12 MB
- Position: 55,7986442792775 37...

**Measurements Table:**

	Sys	Num	El	Az	CA/L1	P/L1	P/L2	L2C	-L5	Track Tim	Status
Latitude	GPS	32*	66	262	56	48	48			00:06:27	55
Longitude	GPS	22	18	92	48	28	28			00:06:27	55
Ellipsoidal height	GPS	14*	50	64	49	41	41			00:06:27	55
Position SEP	GPS	31*	23	134	45	32	32	43		00:06:27	58
Velocity 2D	GPS	17*	20	322	44	27	27	42		00:06:27	58
Position RMS	GPS	1	66	268	55	46	46	53	52	00:06:21	58
Velocity RMS	GPS	11*	57	218	45	27	27			00:06:27	55
PDOP	GPS	19	10	200	37	14	14			00:03:46	55
Solution	GLO	9/-2	31	96	53	52	42	43		00:06:27	58
Receiver Time	GLO	10/-7	7	140	44	43	33	33		00:06:27	58
Receiver Date	GLO	16/-1*	28	34	48	48	39	40		00:06:27	58
Clock Offset	GLO	7/5	53	64	55	54	45	46		00:06:29	58
Osc. Offset	GLO	8/6	63	282	54	53	45	46		00:06:27	58
	GLO	22/-3*	13	198	46	45	37	39		00:06:27	58
	GLO	24/2*	35	320	49	48	43	44		00:06:27	58
	SBAS	124			40					00:06:25	30

**Links:**

- Link Id: /tcp/a
- Decoder Id: RTCM 3.0
- Staion Id: 0000
- Time elapsed sin...: 001
- Received messages: 0152
- Corrupt messages: 0000
- Link quality (%): 100.00

Figure 9. NetView





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