



Setting up NovAtel receivers with CDGPS for RTCM pass-through logs

These instructions can be used to configure NovAtel OEM-V series receivers to receive CDGPS signals and output RTCM format corrections for use in third-party GPS receivers. Please ensure your equipment is compatible with the CDGPS service. You will require a NovAtel receiver with VBS capability as well as an antenna capable of receiving L-Band corrections such as the NovAtel 702-L.

1. Communication with the NovAtel receiver

To establish communication with the receiver, Hyperterminal is the easiest setup tool to use. Plug in the serial cable to COM1 of the NovAtel and to the serial port on the computer. If you are using a USB to Serial adapter on the computer make sure the adapter is working and you know the serial port number assigned to the port.

Default Baud rate is 9600

If the NovAtel receiver is new, the default baud rate will be 9600. Configure Hyperterminal to the settings **9600 Baud, 8, None, 1, No Handshaking**.

First, in Hyperterminal, you can choose File>Properties>Settings>ASCII Setup and check “Echo Typed Characters Locally” to see what you are typing. To confirm communication with the receiver, type the following:

LOG VERSION

The correct response is model and version information for your receiver. If there is no response you may be on the wrong com port or the wrong port speed.

2. Configuring CDGPS

Once you have confirmed communication with the receiver, you can enable the CDGPS corrections with the following commands:

ASSIGNLBAND CDGPS <freq> 4800

PSRDIFFSOURCE CDGPS

The <freq> is the local beam frequency in your area, according to the following chart, without the decimal:

Beam	Satellite	Frequency (MHz)
West	MSAT 1	1547.547
West Central	MSAT 2	1557.571
East Central	MSAT 2	1557.897
East	MSAT 1	1547.646

Example: For the Ottawa, Ontario area, we use the East Central beam:

ASSIGNLBAND CDGPS 1557897 4800



PSRDIFFSOURCE CDGPS

3. RTCM Output

The port you wish to use must be configured for RTCM message types. This is done with the **INTERFACEMODE** command using the following syntax:

INTERFACEMODE <gpsport> <receivetype> <transmittype> <responses>

For RTCM output on com2, we need to configure the port like this:

INTERFACEMODE COM2 NOVATEL RTCM OFF

Now we can configure the output of standard RTCM messages at a regular interval. Two types of RTCM messages are possible, type 1 and type 9 (partial). The syntax is:

LOG <gpsport> <RTCMCDGPS1 or RTCMCDGPS9> <interval>

separated with spaces, so the command in the above example is:

LOG COM2 RTCMCDGPS1 ONTIME 1

Which will output RTCM type messages from com2 once per second.

4. Saving your configuration

To save your changes permanently in the receiver, we can use the following command:

SAVECONFIG

Note this command is only recommended with Hyperterminal. If it is used in anything else such as NovAtel's CDU program it will save every setting, including proprietary CDU messages which may be unwanted binary outputs from the ports.

5. (optional) Baud Rate Settings

If your NovAtel receiver is not new, or is running at a different baud rate, you can change the default baud rate using the following command:

COM COM1 9600 N 8 1 N OFF ON

Changes COM1 to 9600 baud.

COM COM2 57600 N 8 1 N OFF ON

Changes COM2 to 57600 baud.

These commands will work from any com port connection on the receiver. Note that you will need to reconnect at the new baud rate from Hyperterminal when using these commands.

6. (optional) Removing Logs

If you are receiving unwanted logs from the NovAtel receiver, logs can be removed by typing the following:



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UNLOG <logtype> or **UNLOGALL** which will remove all logs.

Additional info:

Many other logs and commands are available from the receiver. You can find out more about the above logs from the NovAtel OEMV Family Firmware Reference Manual available on www.novatel.ca under the Support > Documentation section.

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