# **Firmware Upgrade Instructions**

	OEM7 Series
Using NovAtel Application S 1. Run NovAtel Application Suit 2. Click on Device under the mat	Suite te and connect receiver. ain top menu. Click on Update.
OEM7_USB (1) 🗙 🔂 Add	device
Settings 🔹 🔧 Tools 👻	Device
SPAN In Height (MSL) <b>5</b> .	Details Storage
	Update
3. Click on Browse to select the Device / Update	e OEM7/PwrPak7 firmware or Web UI file.
Update Firmware or Softw Current Firmware Version Current Setup and Monitor (Web) Version Select File	vare OM7CR0810RN0000 on 1.9.0
Update files have a ".hex" or ".shex" file extens Browse Help	
GPS	<ul> <li>GNSS Systems</li> </ul>

Open			>	×
$\leftrightarrow$ $\rightarrow$ $\checkmark$ $\uparrow$	« NovAtel > Firmware > OEM7 >	PP7-Firmware $\checkmark$ $\circlearrowright$	Search PP7-Firmware	
Organize 👻 New folder	ř.		≣ - □ 0	•
Statuy A Status A Status A Status A Status A	Name Name Name Name Name Name Name Name	Date modified           A(12)/3621 d.57 Pm           12/5/2022 be10 AM           12/5/2022 10:10 AM		
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	4	-		
File na	me: EP7PR0814RN0000.shex		Custom Files (*.hex;*.shex) V	
Apply 5. Firmwar	e or Web UI will be in	stalled. Wait for the pr	rocess to complete an	d restart.
Upda	ating R	estarting		
6. If no erro	ors occur, your receiv	er should be updated.	C.C	om
(	GPS •	GNS	S Sys	tems

# Using OEM7 WebUI (Setup and Monitor, 1.x.0)

Using this method assumes that you already have a connection either through an ethernet cable or WiFi (PwrPak7). Depending on the receiver type, you may need to enable ethernet connectivity using the command.

### ETHCONFIG ETHA AUTO AUTO AUTO AUTO.

This will need to be done via serial cable connection or USB connection. Once this command is completed, you can get the assigned IP address with the command

[USB1]log ipstatus					
<ok< th=""><th></th><th></th><th></th><th></th><th></th></ok<>					
[USB1] <ipstatus td="" usb1<=""><td>0 95.5 UNKNOWN 0 167</td><td>2.000 02444020 7fe</td><td>2 15341</td><td></td><td></td></ipstatus>	0 95.5 UNKNOWN 0 167	2.000 02444020 7fe	2 15341		
< 2					
< ETHA "192.1.1.1(	<mark>)</mark> " "255.255.255.0" "192.	168.128.1"			
< WIFI "192.168.19	).1" "255.255.255.0" ""				
< 1					
< "8.8.8.8"				EIII EIII	
Enter the IP address into	o a web browser.				

If using WiFi, connect to the NovAtel WiFi connection and then use the WIFI IP address. The password for WIFI is on a label printed on the bottom of the PwrPak7 receiver.

1. After starting the Web UI, click on Device on the main menu

## Device

2. You will be prompted for a password. The password will be the receiver enclosure serial number (PwrPak7) or card serial number (board level receiver or CPT7).

Login	×	
Password	2	
		m
	Cancel Log In	
fter providing the passwor	d, click on Update under the Device menu.	ns

Device	- 2	Heln				
Device		icib				
Details						
Storage						
Undata						
opdate						
Restart						
					<b>C1</b>	
4. Click on	Browse to se	ect the OEM	7/PwrPak7 firn	iware or Web UI	file.	
evice / Update						
Update Fi	rmware or	Software				
Current Firmw	are Version		OM7CR0810RN	0000		
Current Setun	and Monitor (We	h) Version	1 9 0			
current setup		b) version	1.9.0			
Select File						
Update files hav	ve a ".hex" or ".shex"	file extension.				
Browse						
Help				Арг	oly	
Upen -						
$\rightarrow$ $\checkmark$ $\uparrow$	≪ NovAtel → Firmware	· > OEM7 > PP7-Firm	vare 🗸	C Search PP7-Firmware	P	
rganize 🔻 New fold	ler Name	^	Determine	≣ .	- 🗆 😗	
in ann a'	Name		vate modified			
ng statest at	arcsize		225/2022 NEVCAN			
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建 and (a)						
	4		+			
File n	ame: EP7PR0814RN0000.s	hex		Custom Files (*.hex;	°.shex) ∨	
				Open	Cancel	

5. After selecting the file, click on Apply.

6. Firmware or Web UI will be installed. Wait for the process to complete and restart.



# Using OEM7 WebUI (older 2.x, WMC010205RN0000)

Using this method assumes that you already have a connection either through an ethernet cable or WiFi (PwrPak7). Depending on the receiver type, you may need to enable ethernet connectivity using the command.

### ETHCONFIG ETHA AUTO AUTO AUTO AUTO.

This will need to be done via serial cable connection or USB connection. Once this command is completed, you can get the assigned IP address with the command

[USB1]log ipstatus
<ok< td=""></ok<>
[USB1] <ipstatus 0="" 02444020="" 15341<="" 167.000="" 7fe2="" 95.5="" td="" unknown="" usb1=""></ipstatus>
< 2
< ETHA " <mark>192.1.1.10</mark> " "255.255.255.0" "192.168.128.1"
< WIFI "192.168.19.1" "255.255.255.0" ""
< 1
< "8.8.8.8"
Enter the IP address into a web browser.
If using WiFi, connect to the NovAtel WiFi connection and then use the WIFI IP address. The password for WIFI is on a
label printed on the bottom of the PwrPak7 receiver.
1. Click on the gear/cog in the upper right corner
2. Click on the undate button on the right manu
2. Click on the update button on the right menu
±
3. Click on the Expand link to open the Firmware section.

UPDATE

Firmware Expand V GNSS Systems

4.	Click on Choose File to select the firmware file downloaded from NovAtel (https://www.novatel.com/support)
	NOTE: The PwrPak7 will have a different file prefix than the board level units
	PwrPak7: EP7PR####RN####.shex, Other: OM7MR####RN####.shex
_	

- 5. Once the file is selected, click on the UPLOAD button
- 6. After the firmware install is completed the receiver will reboot
- 7. You can verify using the terminal and requesting a VERSION log with the command LOG VERSION
- [USB1]log version <OK

#### [USB1]<VERSION USB1 0 89.0 UNKNOWN 0 27.519 02444020 3681 15824

## < 10

< GPSCARD "GSNNNNNNN" "BMHR0000000G" "OEM7700-1.01" "OM7CR0703RN0000" "OM7BR0100RB0000" "2019/Aug/12" "10:25:47"

- < OEM7FPGA "" "" "OMV070001RN0000" "" "" ""
- < WHEELSENSOR "" "" "SWS000201RN0000" "" "2019/Aug/12" "10:26:15"
- < APPLICATION "" "" "EP7AR0703RN0000" "" "2019/Aug/12" "10:26:00"
- < DEFAULT\_CONFIG "" "" "EP7CR0703RN0000" "" "2019/Aug/12" "10:26:10"
- < PACKAGE "" "" "EP7PR0703RN0000" "" "2019/Aug/12" "10:26:05"
- < DB\_WWWISO "WWWISO" "0" "" "WMC010205RN0001" "" "2019/Mar/27" "14:09:05"
- < ENCLOSURE "PWRPAK7" "NMND192100287" "" "" "" "" "" ""
- < REGULATORY "US" "" "" "" "" "" ""
- < WIFI "RS9113" "" "" "1.6.8" "" "2019/Aug/12" "10:26:20"

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## Using NovAtel WinLoad

- 1. Download and unpack the zipped firmware file
- 2. Locate the unzipped folder and go into the Firmware folder
- 3. Run Winload.exe
- 4. Under the Settings Com Settings
  - 1. Make sure the com port matches your computer com port
  - 2. The download baud rate should typically be set at 115200
  - 3. Connect baud rate is typically set to 9600 (requires power cycle) or BREAK (receiver powered up)

Com Port	COM1		•
Download Baudrate	115200		•
Connect Baudrate	BREAK		•
	OK	Cancel	

- 5. OPTIONAL To force a firmware reinstallation
  - Under Settings Options, make sure Optimized Loading is NOT checked This will force the firmware to be reinstalled if the same version is already installed on the receiver.

	2			
	File	Settings Help		
	0	COM Settings		
	0	Options 🕨	Optimized Loading	
SL	Æ			m
6. On the File Menu, selec	t Open l	GNS	5 Syste	ms

	🏠 WinLoad
	File Settings Help
	😂 File Open
	🕒 Open Script File
	Write Flash
	Exit
-11	C1.Userol.mosel.Documents/.templusp.83900.3900.hes T1.websitel.staff.wpau_backupi.CPT3630_Updatel.CPT3630.Updatel.program
	Figure 3

7. Navigate to the firmware .shex file, select the correct shex file, and Click Open (or double-click on the shex file)

2		Open				×
Look in:	))) OEM060620F	RN0000	•	🕁 🔁	- 🖬 🍋	
œ.	Name	•	Date mod	dified	Туре	Size
Recent Places	OEM060620R	N0000.shex	9/2/2015	1:28	SHEX File	11,4
Desktop						
Rob Rose						
Computer						
<u></u>						
Network						
			111			•
	File name:	OEM060620RN000	0.shex		-	Open
	Files of type:	All Hex Files (*.HEX	*SHEX)		-	Cancel

8. Make sure power in NOT connected to GPS receiver, but have power ready to connect



If you want to leave power applied to the receiver, change the Settings -> Com Settings... -> Connect Baud Rate to BREAK. This will allow you to leave power applied and Winload will issue a break to the unit to initiate the firmware installation process.

	Com Port Download Baudrate Connect Baudrate	<mark>СОМ1</mark> 115200 ВВЕАК ОК	Cancel	• •		
Click on Write Flash button in the	e Winload program					
File Settings Help			- A. 19533			
Ce 😫 😫 🐪 Authorizati	on Code:					
\OEM060620RN0000.shex	.0EM6\0EM060620RN(	000	Vite Flash	Card Properties PSN: Enclosure: OSN: HW Rev: MAC1: MAC1: MAC2: MAC3: MAC	ties :4 :4 :40000	
COM: 1 Connect: 9600 Down	load: 115200		1.0.	.158.341		
	Fig	ure 5		11 1		
When the count down starts	alu powor to rocci			NU.		

- 11. The Winload program should use the SIGNATURE auth already installed in the receiver.
  - 1. If you get prompted for an auth code --> Cancel the firmware upgrade and contact SLAinc
  - 2. Firmware update could take several minutes to complete

<u>File Settings H</u> elp	
👄 🛃 🐒 📋 Authorization Code: 🗾	CENTRAL ACCOUNTRY
Searching for card timeout in: 28 secs	Write Flash
Card Detected	1 Run Script
Found platform: OEM628	?{] Query Card
Expecting platform: ME4	OSN: DATE:
Changing baud nate to: 115200	HW Rev: DEM628-1.00
baud rate changed	MAC: HEREIT
Using ME4 Second Stage Loader	
Stage 1 Done	Hex File Properties
Requesting OSN	Platform: ME4
Requesting HW_Ver	Turne APP
Requesting SW Platform	Type: Mrr
Requesting Number of Cards Bequesting Card Application Version	Version: DEM060100RN0000
OptiLoad Threshold : 50	
Requesting Auth Free Space Desired SW already is on board	
Clearing Current Auth Codes	
Sending Auth Code	Target Card ID: 0
Resetting Card	Boot Target Card ID: 0
Done.	
Look for Done	
Ebox for Bone	
	Full Meter
]	
COM:1 Connect: 115200 Download: 115200	
COM: 1 Connect: 113200 Download: 113200	
Fig	ure 6
he firmware update has completed, it is high	ly recommended (but not required) to perform
n the unit to clear out any potential issues.	
n the unit to clear out any potential issues.	
n the unit to clear out any potential issues. Connect to the unit through NovAtel Conne	ct or a terminal program (ex. HyperTerminal, 1
n the unit to clear out any potential issues. Connect to the unit through NovAtel Conne	ct or a terminal program (ex. HyperTerminal, T
n the unit to clear out any potential issues. Connect to the unit through NovAtel Conne Procomm, etc) and issue the following com	ct or a terminal program (ex. HyperTerminal, T mand:
n the unit to clear out any potential issues. Connect to the unit through NovAtel Conne Procomm, etc) and issue the following com	ct or a terminal program (ex. HyperTerminal, 1 mand:
n the unit to clear out any potential issues. Connect to the unit through NovAtel Conne Procomm, etc) and issue the following com i. FRESET [Enter]	ct or a terminal program (ex. HyperTerminal, T mand:
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n the unit to clear out any potential issues. Connect to the unit through NovAtel Conne Procomm, etc) and issue the following com i. FRESET [Enter] The unit will reset to factory defaults. If con	ect or a terminal program (ex. HyperTerminal, T mand: nected at a baud rate other than 9600, you wi
n the unit to clear out any potential issues. Connect to the unit through NovAtel Conne Procomm, etc) and issue the following com i. FRESET [Enter] The unit will reset to factory defaults. If con reconnect at 9600	ect or a terminal program (ex. HyperTerminal, T mand: nnected at a baud rate other than 9600, you wi

- <VERSION USB1 0 89.0 UNKNOWN 0 27.519 02444020 3681 15824
  - < 10 < GPSCARD "GSNNNNNNN" "BMHR0000000G" "OEM7700-1.01" "OM7CR0703RN0000" "OM7BR0100RB0000" "2019/Aug/12" "10:25:47" GNSS Systems