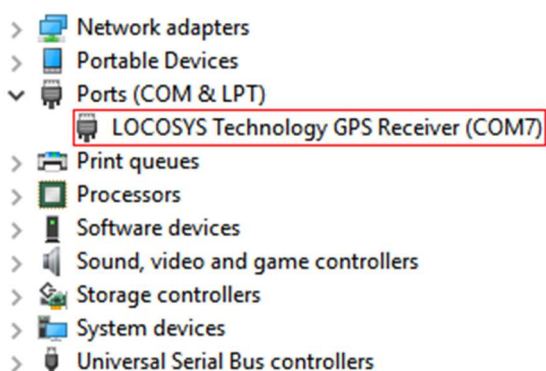


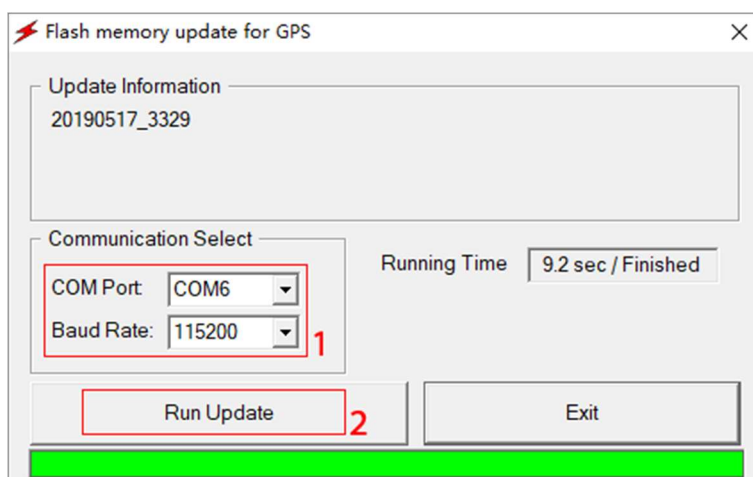
V-900/V-990 Firmware Updating Guide for the WNRO

The following steps take Windows10 as an example.

1. Prepare a standard Mini-USB cable, connect V-900/V-990 to your computer (**Do NOT use the auto on/off cable that device attached**).
Make sure there is no memory card inside the device. Turn on the device.
2. View the COM port of the V-900/V-990 (COM6 shown).



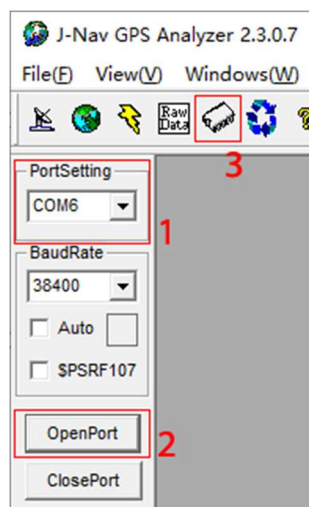
3. Run "FW_WNRO". Select the COM Port and click "Run Update".
After about ten seconds, the progress bar below turns green to indicate the end of the first part of updating.



4. Run "J-Nav GPS Analyzer".



- (1) Select the COM PORT where the device is located, click "OpenPort", and then click the icon in the upper right corner.



- (2) Click "Read Information". **All parameter settings must be consistent as shown in Box 2.**

Click "Select" .and finally click "Execute".

The screenshot shows the 'CommandSetting' dialog box with the following elements and annotations:

- Read Information**: A button at the top left, highlighted with a red box and labeled with a red '1'.
- Write Information**: A button at the top right.
- User Define Message**: A text input field containing the command `$PSRF110,1,10,10,2,1,1,0,0,0,10,21*3a`, highlighted with a red box and labeled with a red '4'.
- Execute**: A button next to the 'CR' and 'LF' checkboxes, highlighted with a red box.
- < FLASH Write >**: A section containing:
 - Com A**: Protocol set to 'NMEA' and BaudRate set to '38400'.
 - Product Select**: 'Standard' is selected, and 'MT3339' is an option.
 - Com B**: Protocol set to 'Other' and BaudRate set to 'LED'.
 - NMEA**: A row of dropdown menus for GGA (1), GLL (0), GSA (1), GSV (5), RMC (1), VTG (0), and USER (0).
- Select**: A button below the NMEA settings, highlighted with a red box and labeled with a red '3'.
- Select Cancel**: A button next to the 'Select' button.
- \$PSRF202, \$PSRF110**: A section containing:
 - A text input field with the command `$PSRF110,1,10,10,2,1,1,0,0,0,10,21`.
 - A **Select** button.
 - LED indicator**: Radio buttons for 'Default (1s,5:5,On)' and 'User define' (selected).
 - LED indicator control**:
 - Not Fix interval**: Set to '1000 ms'.
 - Fix interval**: Set to '1000 ms'.
 - Not Fix LED On**: Set to '1000 ms'.
 - Fix LED On**: Set to '200 ms'.
- PPS**: A section containing:
 - Option**: Set to 'Disable PPS'.
 - PPS Pluse(High)**: Set to '1ms'.

- (3) **All parameter settings must be consistent as shown in Box 1.**

Click "Select" and finally click "Execute".

CommandSetting

Read Information Write Information

User Define Message

\$PSRF 109,NMEA38400,LED 4800,GGA1,GLL0,GSA1,GSV5,RMC1,VTG0

\$PSRF 110,1,1,10,10,2,1,1,0,0,0,10,21*3a

Execute

< FLASH Write >

\$PSRF 201, \$PSRF 109

Com A Protocol NMEA BaudRate 38400

Product Select Standard MT3339

Com B Protocol Other BaudRate LED

NMEA GGA 1 GLL 0 GSA 1 GSV 5 RMC 1 VTG 0 USER 0

Select Select Cancel

\$PSRF 202, \$PSRF 110

\$PSRF 110,1,1,10,10,2,1,1,0,0,0,10,21

Select

LED indicator

LED indicator control

Not Fix interval 1000 ms Fix interval 1000 ms

Not Fix LED On 1000 ms Fix LED On 200 ms

PPS Option Disable PPS PPS Pluse(High) 1ms

- (4) Click "Factory" and then click "Execute".

Fix Time

00:19

Message Sel

Factory

Cold

Warm

Hot

Execute

5. Turn off V-900/V-990 to complete the firmware updating.