



He/O2 analyzer firmware upgrade instructions

Please refer to our instructional videos for additional information at Divesoft's YouTube channel before you proceed with the update.

For the update itself, please follow the instructions below.

https://www.youtube.com/watch?v=ZT_2BThOMVA&list=PLNYQA6sEcbWJ2sK7PYg7HKOMFCAPF86IO&index=17&t=0s

https://www.youtube.com/watch?v=pvn9_4B2EH4&list=PLNYQA6sEcbWJ2sK7PYg7HKOMFCAPF86IO&index=16&t=0s

This update of He/O2 analyzer can be done on Windows OS equipped device only!

1. Download and install the FLIP program 3.4.7.112 for Windows that will be used for Firmware upload into your analyzer here:

<https://www.microchip.com/DevelopmentTools/ProductDetails/PartNO/FLIP>

Documents and Software

Contains ▼

Search term

Documents

FLIP 3.4.7.112 for Windows (Java Runtime Environment included)

FLIP 3.4.7.112 for Windows (requires Java Runtime Environment)

FLIP 3.2.1 for Linux x86 (require Java Runtime Environment)

FLIP 3.4.5 Release Notes



2. Download He/O2 analyzer latest firmware (FW version 2.29a from 4th Feb. 2020) which is available at the bottom of this support page
<https://www.divesoft.com/en/products/analyzer-heo2/firmwares>. Save the file with the latest FW on your desktop or other file in your PC and unzip.

Download file from here:

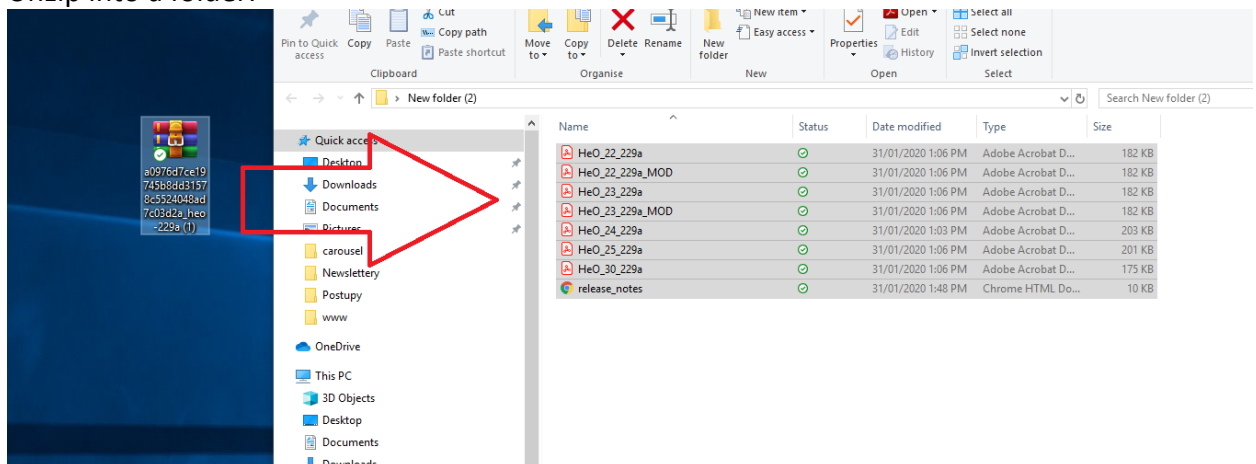
FW version 2.29a (4th February 2020)
[Download](#)

FW version 2.25 (21st July 2018)
[Download](#)

FW version 2.24 (10th July 2017)
[Download](#)

FW version 2.23 (25th May 2017)
[Download](#)

Unzip into a folder:





3. Determine Hardware (HW) and Firmware (FW) version of your analyzer, these information can be viewed at the opening screen when your analyzer is switched on. The display period can be extended by holding the ON/OFF button in the pressed position. The display will show information like this:

He/O2 analyzer
Divesoft
HW 2.5
FW 2.29a 2020/01/31
SN 7288



4. POWER OFF your analyzer
5. Connect **powered OFF** analyzer to your computer using correct USB cable. You should hear a tone from your computer confirming the connection to the device. In all cases the analyzer firmware must NOT be running, display should remain blank.

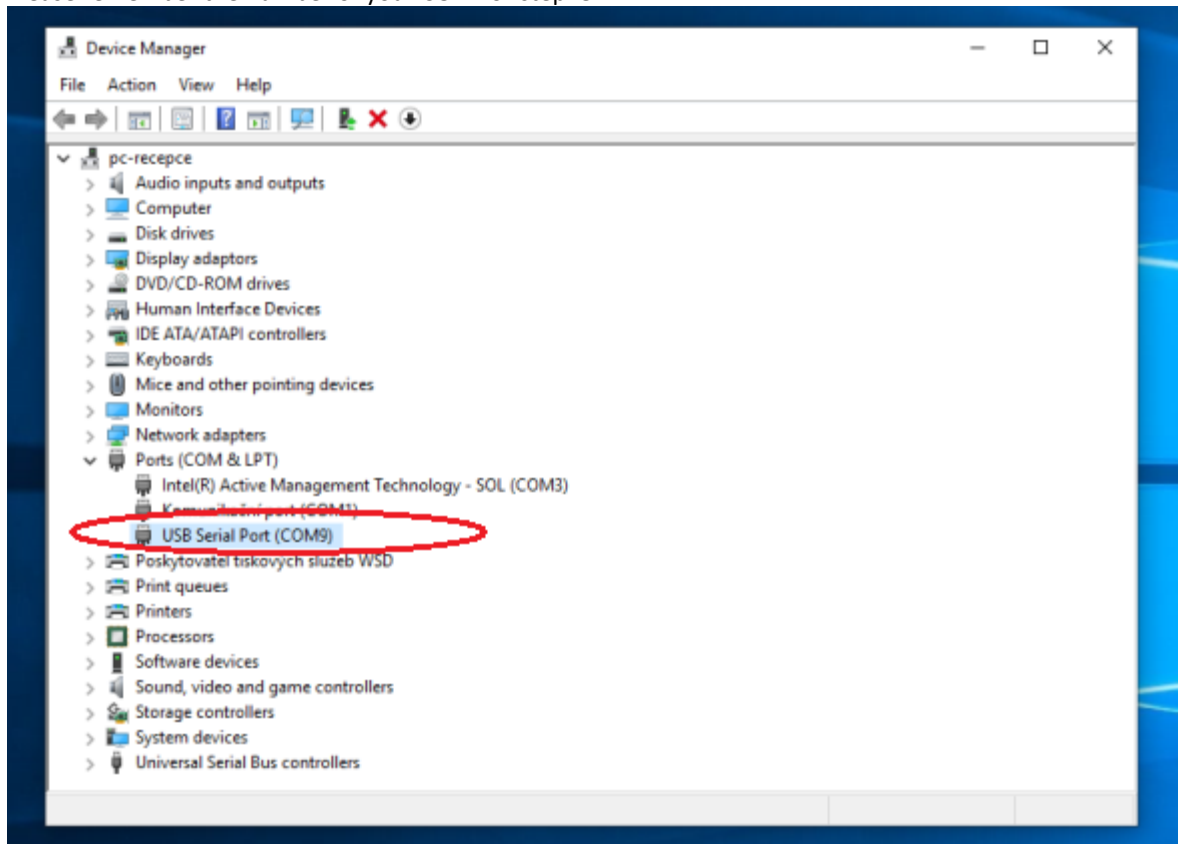


6. Verify what port has been created for your analyzer please refer to **Windows Control Panel (or Start>search bar>Device Manager)> Device Manager> Ports (CM &LPT)**

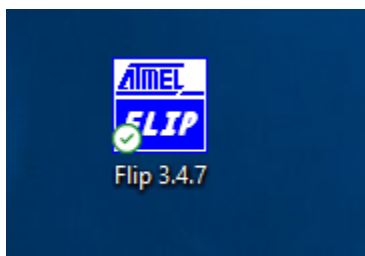
Verifying the port of analyzer:

Please note, the COM number may be different on your computer.

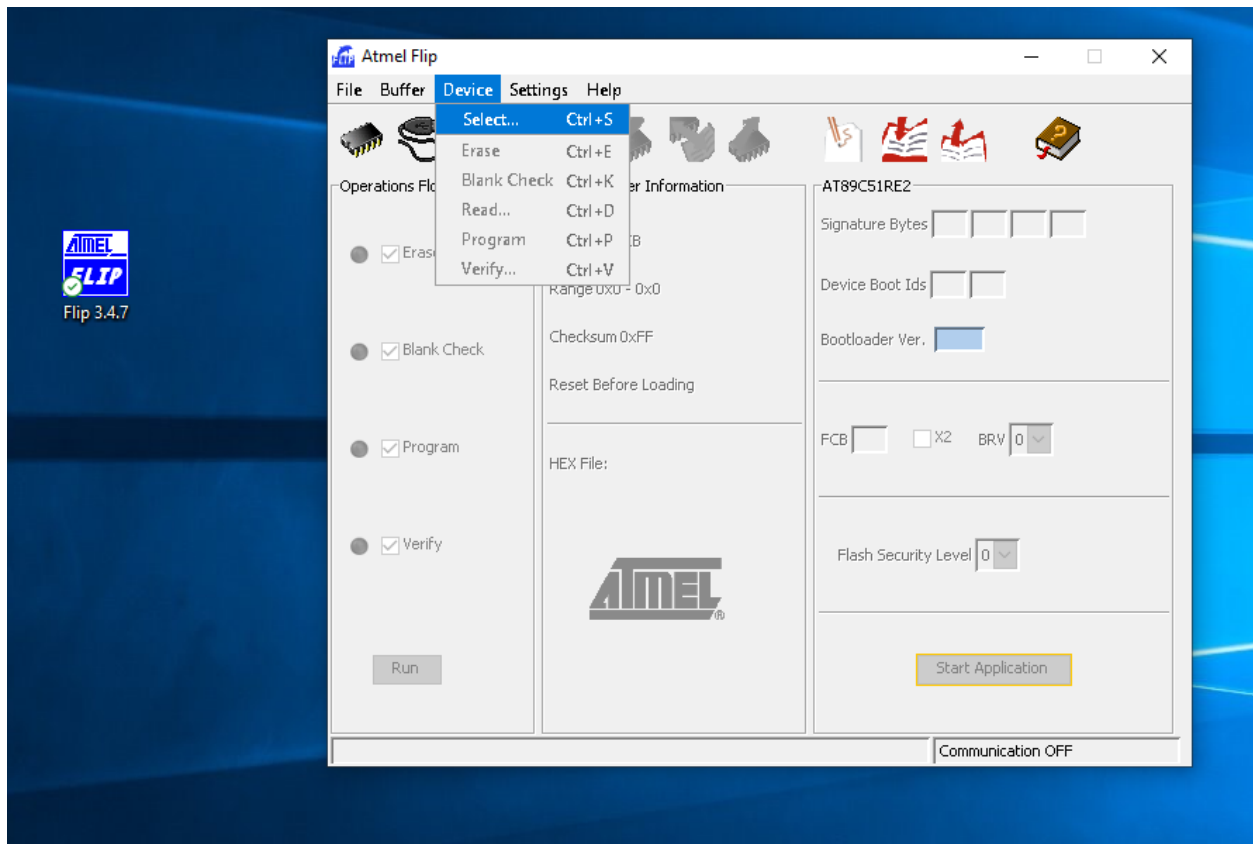
Please remember the number of your COM for step: 8



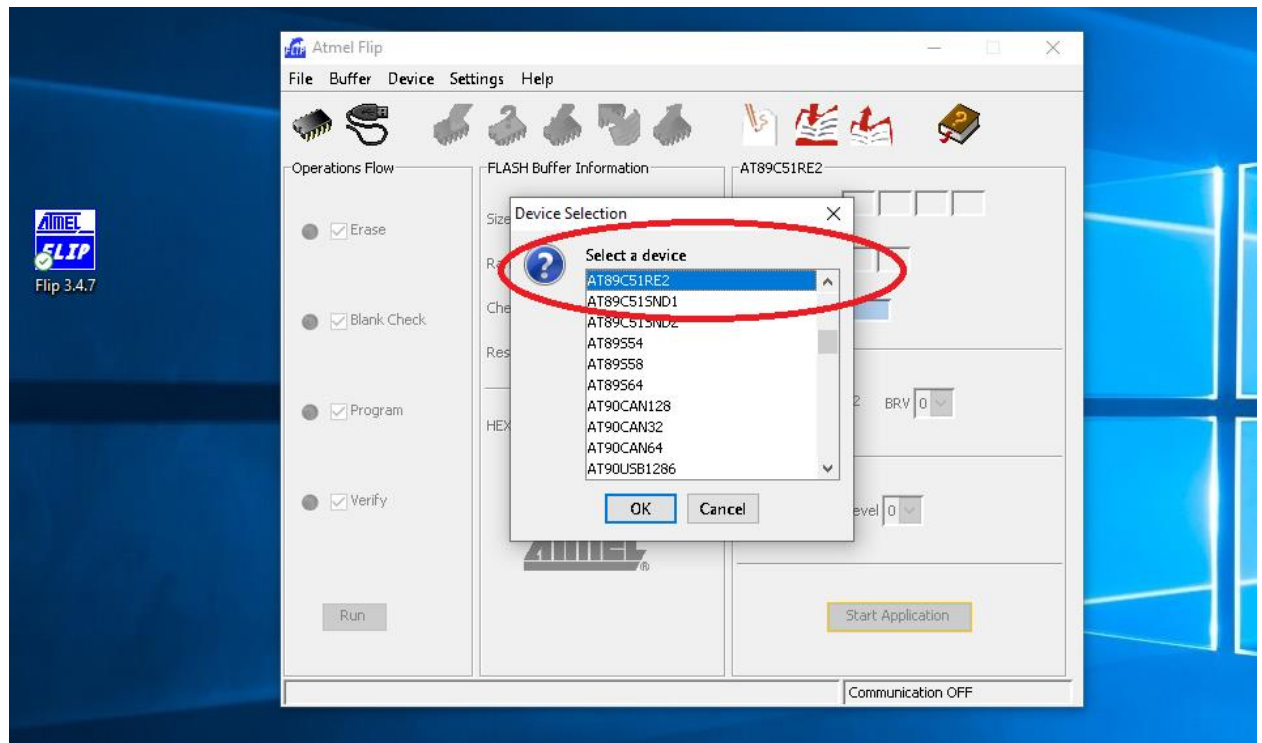
7. Start the FLIP program:



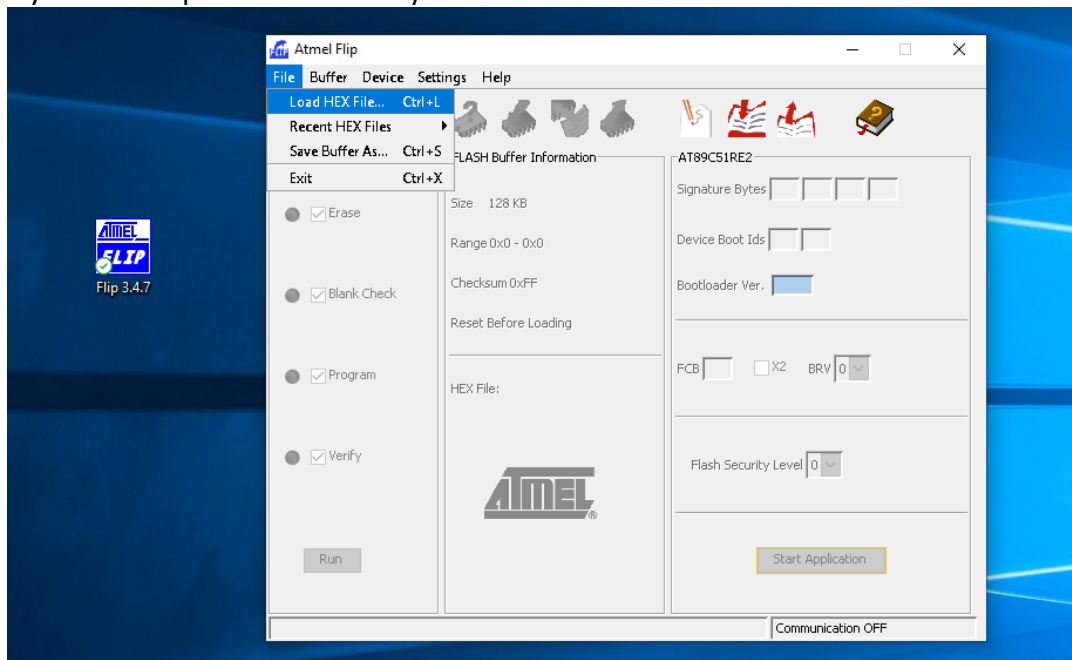
- Select from top tab menu: **Device> Select** and choose the processor/analyzer/device type.



Click on **AT89C51ED2** for older units (version 1.0 – 2.3) or **AT89C51RE2** for more recent units (version 2.4 – 3.0)

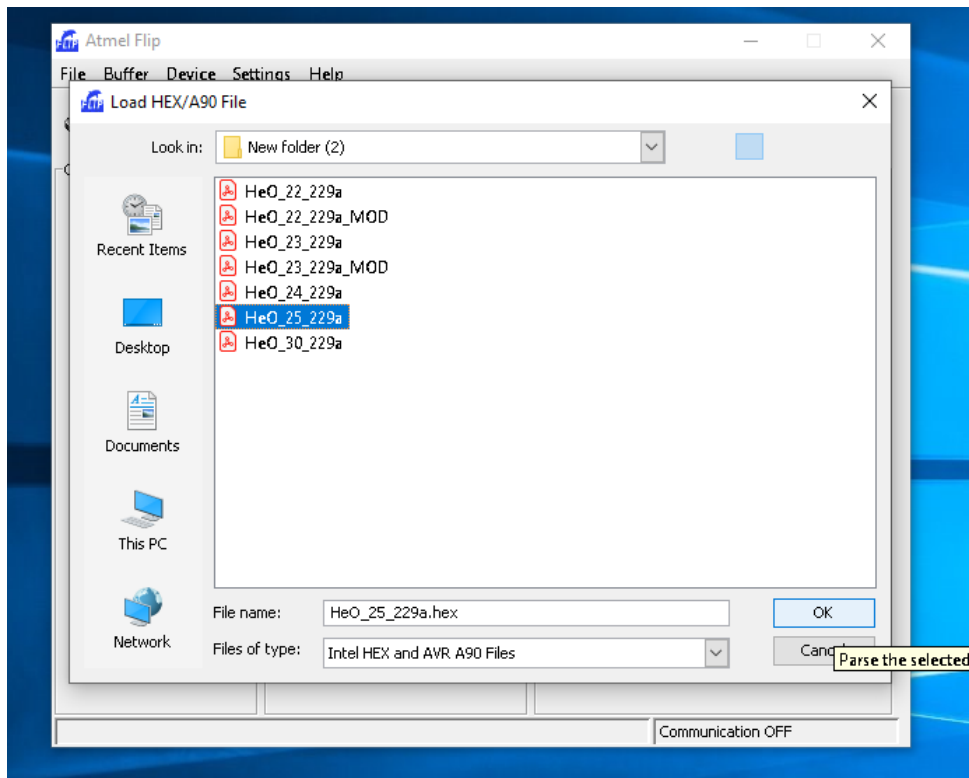


- Select from top tab menu **File > Load HEX File** and open file with the new firmware you saved to your desktop or other file on your PC.



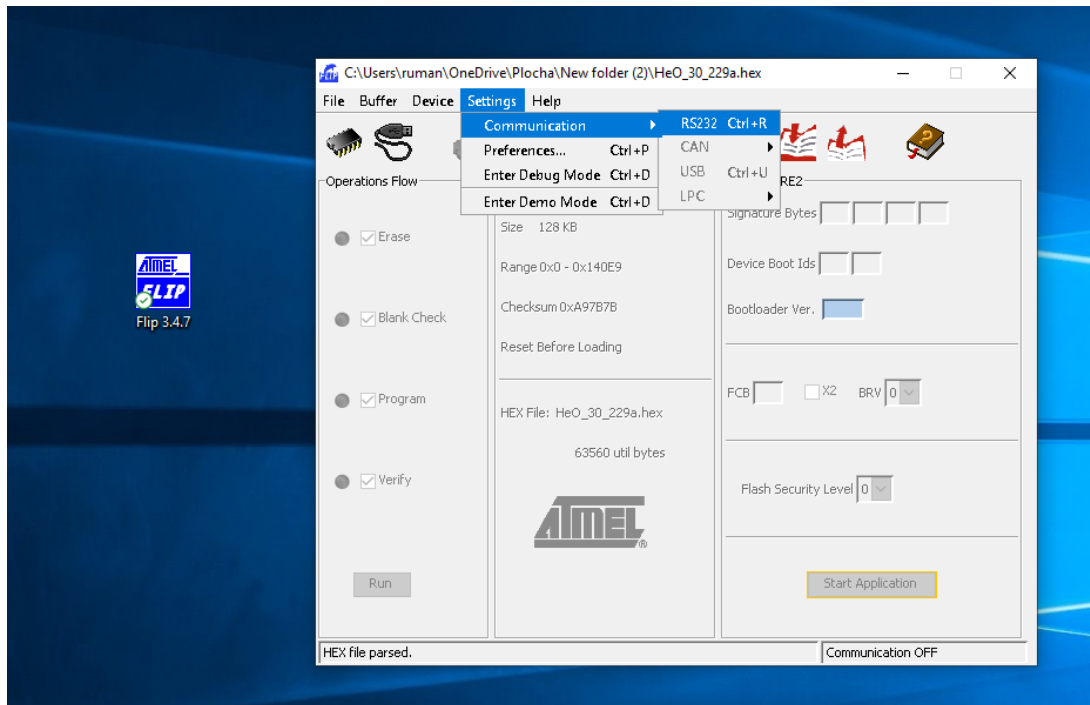


- Choose the correct **.hex** file for your analyzer version. Two digits in the name of the file will help you determine what device is it intended for. $23 = 2.3$ / $24 = 2.4$ / $30 = 3.0$

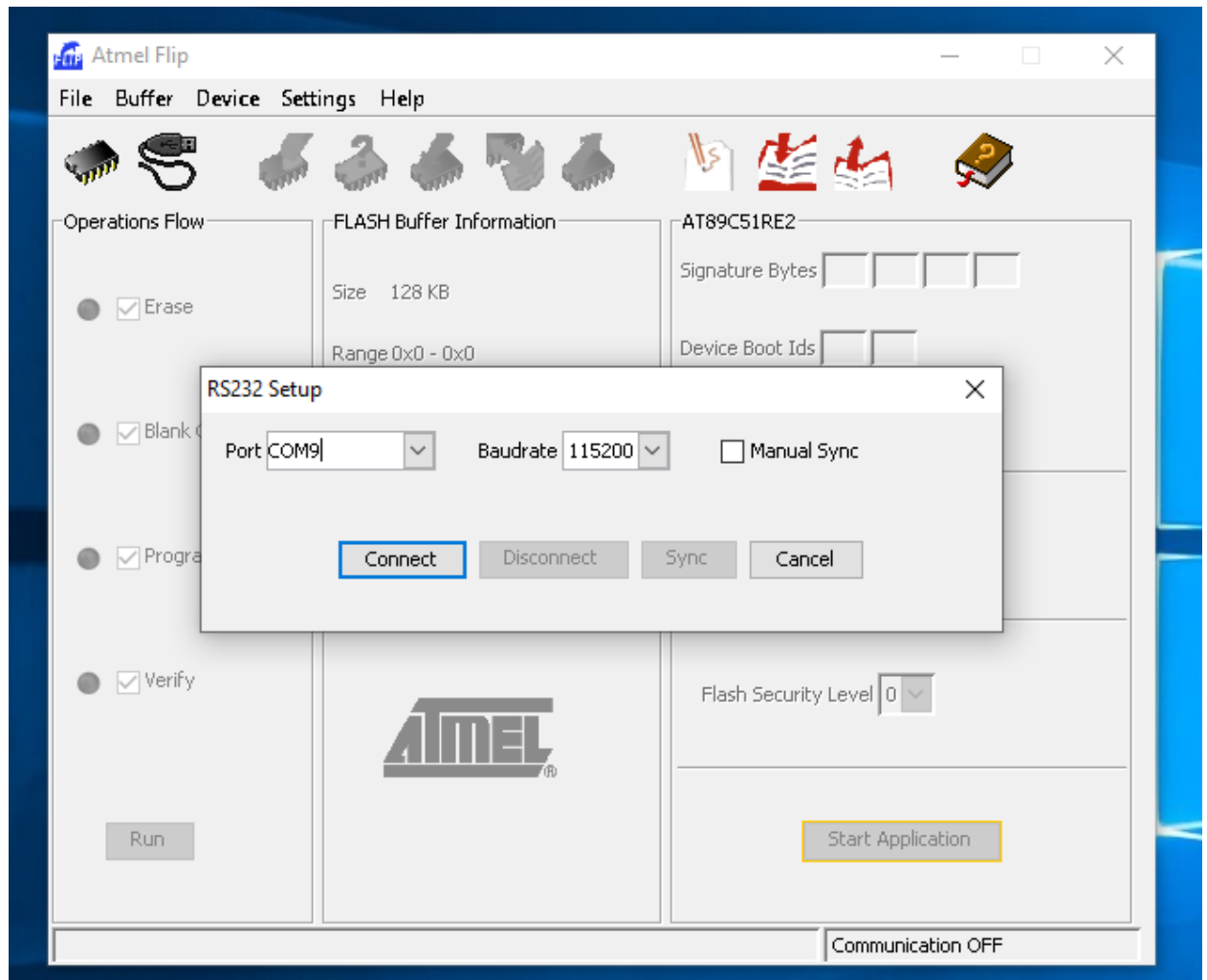




8. Select from top tab menu **Settings** > **Communication** > **RS232**, select the correct COM port which was created by connecting to USB



9. The FLIP window will show following information:
Port: COMXXX
Baudrate: 115200
Manual Sync: "box unchecked"



10. At this point the Analyzer will need to be set into the Bootloader mode by doing following:

HE/O2 Analyzer with HW 2.5 and newer

- Hold MENU and CAL keys pressed and then press and hold the ON/OFF key all together. Then the MENU and CAL keys can be released but the ON/OFF key must remain pressed throughout the entire firmware update process! The screen will also remain off throughout the process.
- You can refer to our video if you have trouble to get into the Bootloader mode:



- https://www.youtube.com/watch?v=pvn9_4B2EH4&list=PLNYQA6sEcbWJ2sK7PYg7HKOMFCAPF86lO&index=15 (1:02)



or

- Insert the plug into the system connector, press and hold the ON/OFF key. Then remove the plug and keep holding ON/OFF. The ON/OFF key must remain pressed throughout the entire firmware update process! The screen will also remain off throughout the process.

HE/O2 Analyzer with HW 2.4 and older

- Insert the plug into the system connector, press and hold the ON/OFF key. Then remove the plug.

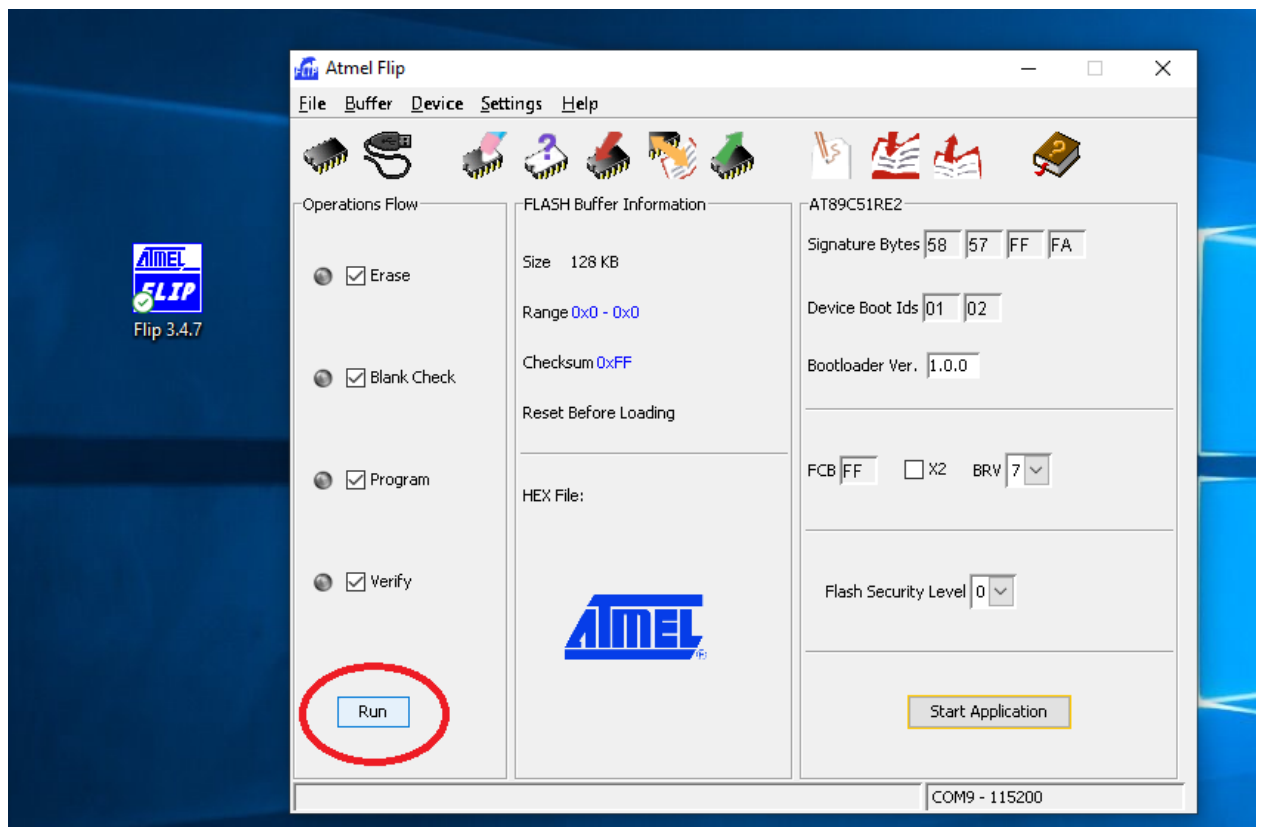


11. Once the analyzer is in the Bootloader mode (screen will remain blank) and the ON/OFF is continually pressed you will select in FLIP program RS232 window > **Connect** . The RS232 window will collapse. Continue to hold ON/OFF button.



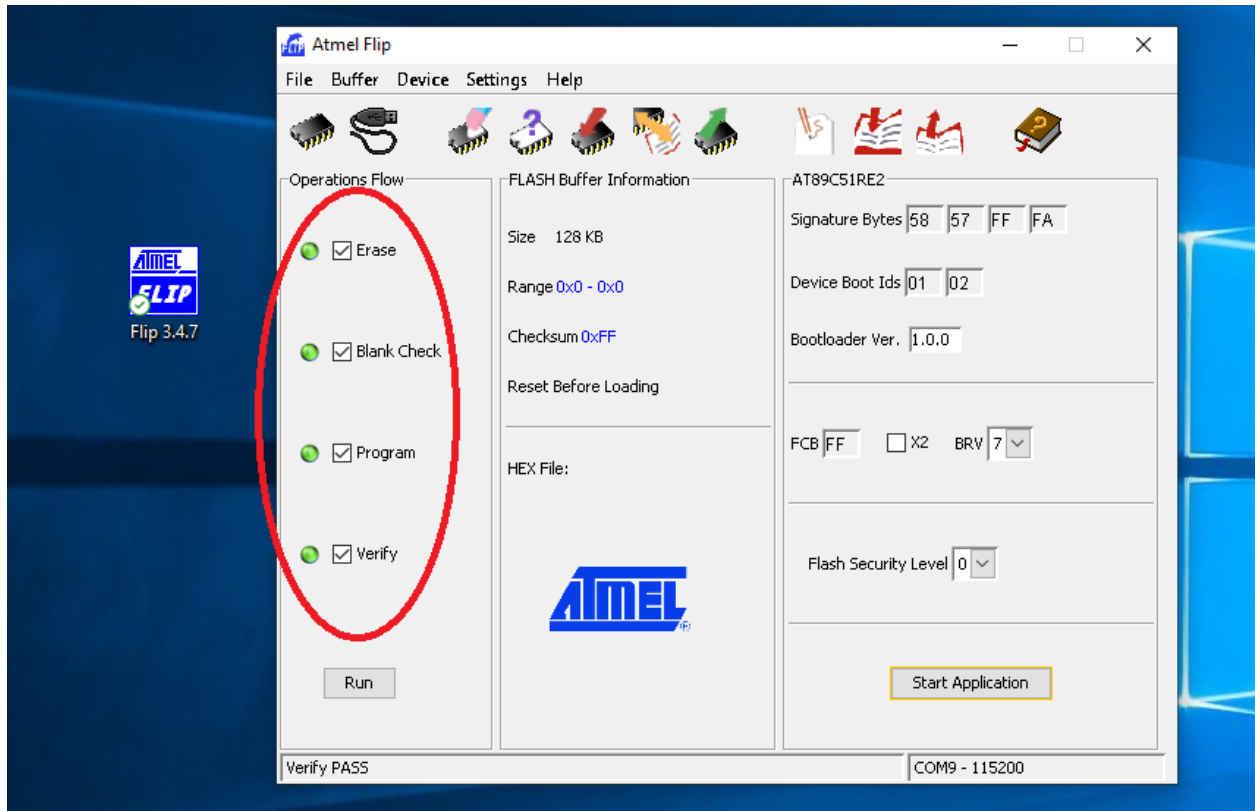


12. On the now available page press RUN button in lower left corner and let the FLIP program install the new FW. This process can take a while, please be patient and make sure you do not release the ON/OFF button. If you do so, you'll need to restart the whole process and begin at point #1.
13. Keep the RS232 window open while the Flip program is running.





14. Once the installation is complete you will then be able to turn on the analyzer and verify the proper firmware has been installed.



In the case of loading firmware intended for a different hardware version, the device will beep five times and shut itself down. In such case, repeat the procedure and load the correct FW version.

In case the download fails, and the device doesn't start (it's bricked), repeat the firmware download. Bricked device can also get into loading loop where it will continuously switch on and immediately off.



In case the repeated connection with the analyzer fails or the device get bricked you will need to perform hard reset:

- Hard reset for devices powered by 9V battery only: Disconnect the battery for several seconds
- Hard reset for SOLO or HEA 2.5 and later: press simultaneously ESC + down arrow + up arrow + OK

If you don't succeed in firmware download or the procedure seems excessively complicated, contact us on following email: info@divesoft.com for assistance.