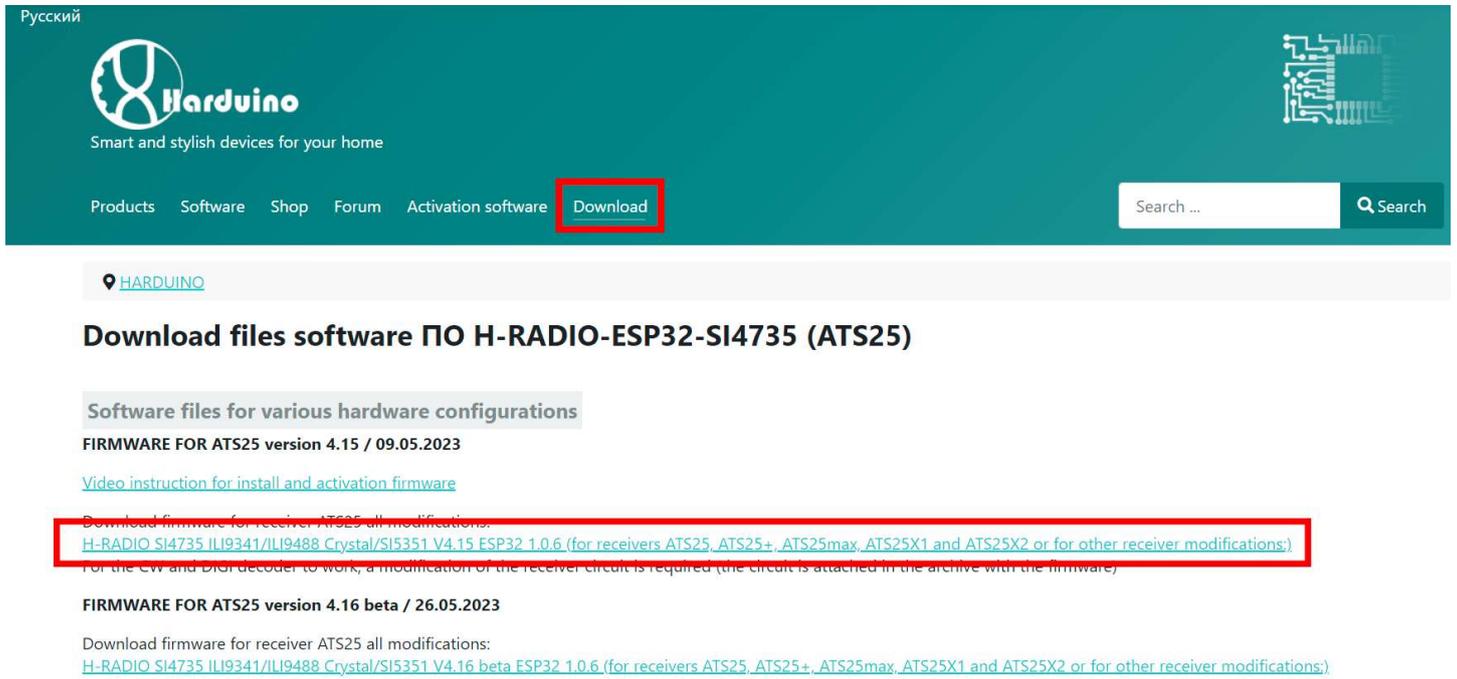


## Instructions for installing the firmware H-RADIO 4.15 AIR

Download the installation package of the latest firmware version on the page:

<http://harduino.ru/index.php/en/download>



The screenshot shows the Harduino website interface. At the top, there is a navigation bar with the Harduino logo and the tagline "Smart and stylish devices for your home". The navigation menu includes "Products", "Software", "Shop", "Forum", "Activation software", and "Download" (highlighted with a red box). A search bar is located on the right. Below the navigation bar, the page title is "Download files software ПО H-RADIO-ESP32-SI4735 (ATS25)". Underneath, there is a section for "Software files for various hardware configurations" with the sub-heading "FIRMWARE FOR ATS25 version 4.15 / 09.05.2023". A link for "Video instruction for install and activation firmware" is provided. The main content area features a red-bordered box containing the text: "Download firmware for receiver ATS25 all modifications: H-RADIO SI4735 ILI9341/ILI9488 Crystal/SI5351 V4.15 ESP32 1.0.6 (for receivers ATS25, ATS25+, ATS25max, ATS25X1 and ATS25X2 or for other receiver modifications:)" followed by a note: "For the CW and DIGI decoder to work, a modification of the receiver circuit is required (the circuit is attached in the archive with the firmware)". Below this, there is a section for "FIRMWARE FOR ATS25 version 4.16 beta / 26.05.2023" with a similar link and note.

Unpack the downloaded archive on your computer.

Connect your receiver to your computer with a USB cable. If you are connecting it for the first time, then you should install the receiver driver on your computer. To do this, download the driver on the download page:

<http://harduino.ru/index.php/en/download>

[H-RADIO SI4735 ILI9341/ILI9488 Crystal/SI5351 V4.15 ESP32 1.0.6 \(for receivers ATS25, ATS25+, ATS25max, ATS25X1 and ATS25X2 or for other receiver modifications:\)](#)  
For the CW and DIGI decoder to work, a modification of the receiver circuit is required (the circuit is attached in the archive with the firmware)

**FIRMWARE FOR ATS25 version 4.16 beta / 26.05.2023**

Download firmware for receiver ATS25 all modifications:

[H-RADIO SI4735 ILI9341/ILI9488 Crystal/SI5351 V4.16 beta ESP32 1.0.6 \(for receivers ATS25, ATS25+, ATS25max, ATS25X1 and ATS25X2 or for other receiver modifications:\)](#)

### Additional files and utilities

[File manager A-Explorer for SPIFFS ESP32 + instructions](#)

### User's Guide

[Installation, activation via the Internet and configuration of firmware](#)

[Instructions in Russian PDF](#)

[Instructions in English PDF](#)

[Activation instructions in Russian PDF](#)

[Activation instructions in English PDF](#)

### A tool for downloading software to a device

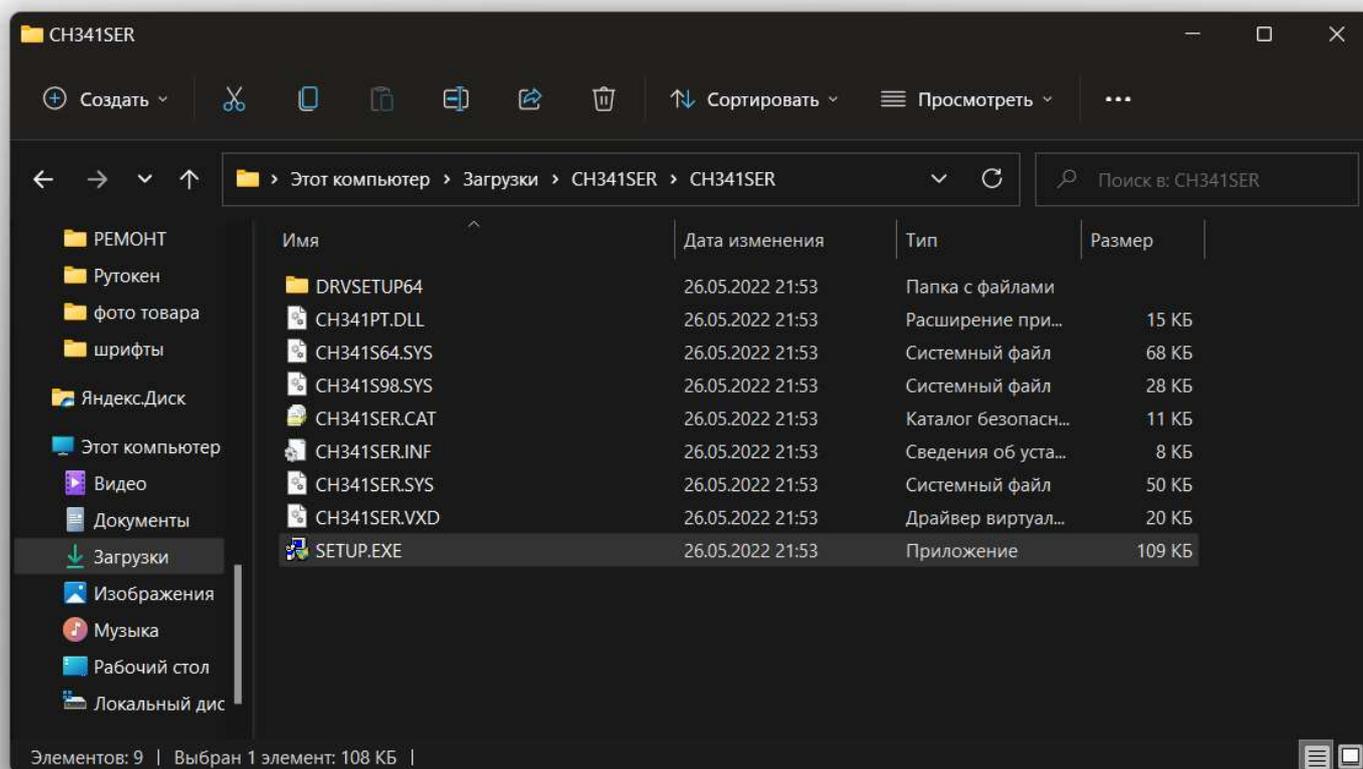
[FLASH DOWNLOAD TOOLS V3.6.3 \(Windows 7\) + instructions](#)

[FLASH DOWNLOAD TOOLS V3.9.2 + instructions](#)

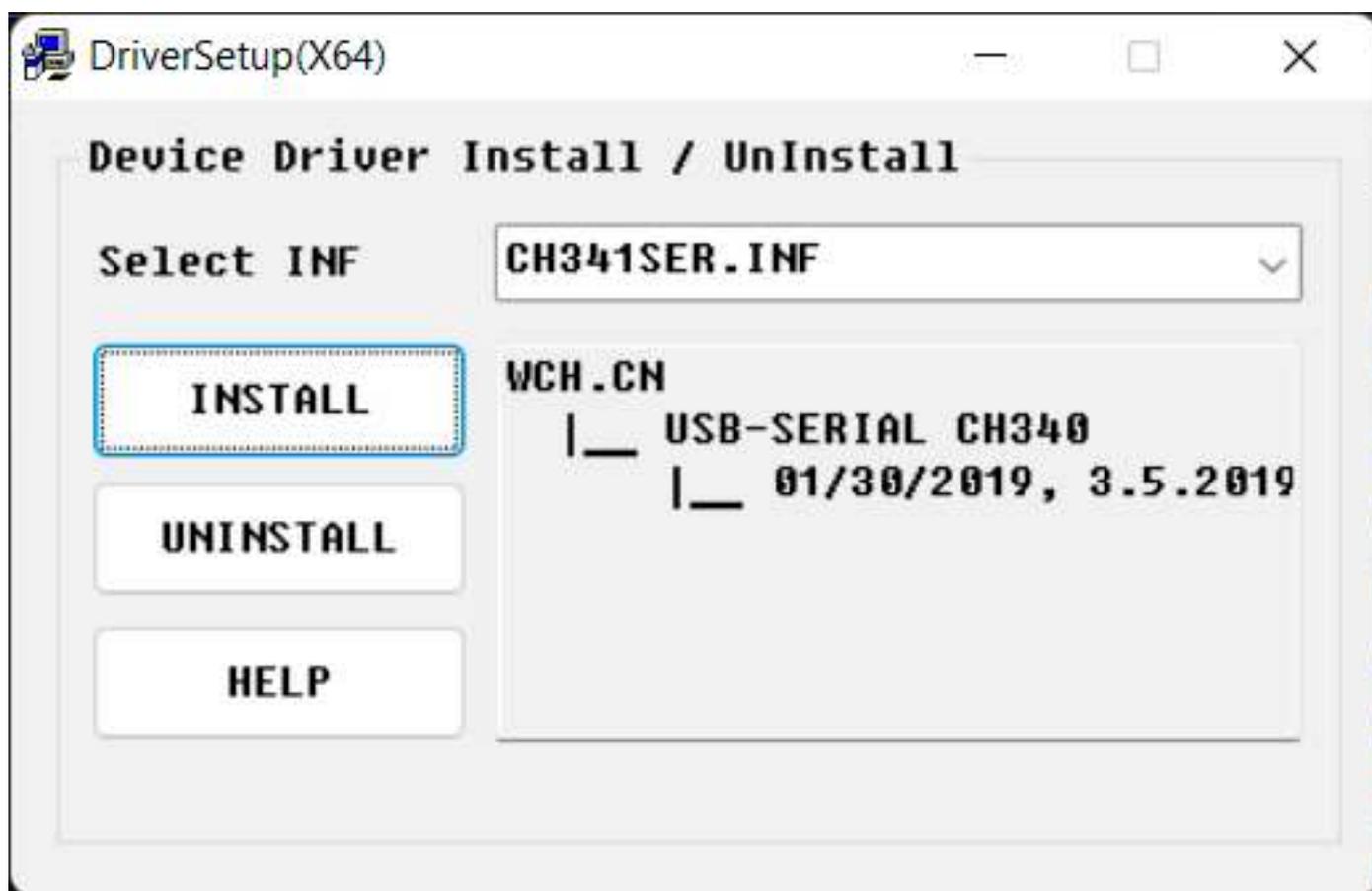
### USB driver ESP32

[CH341SER driver](#)

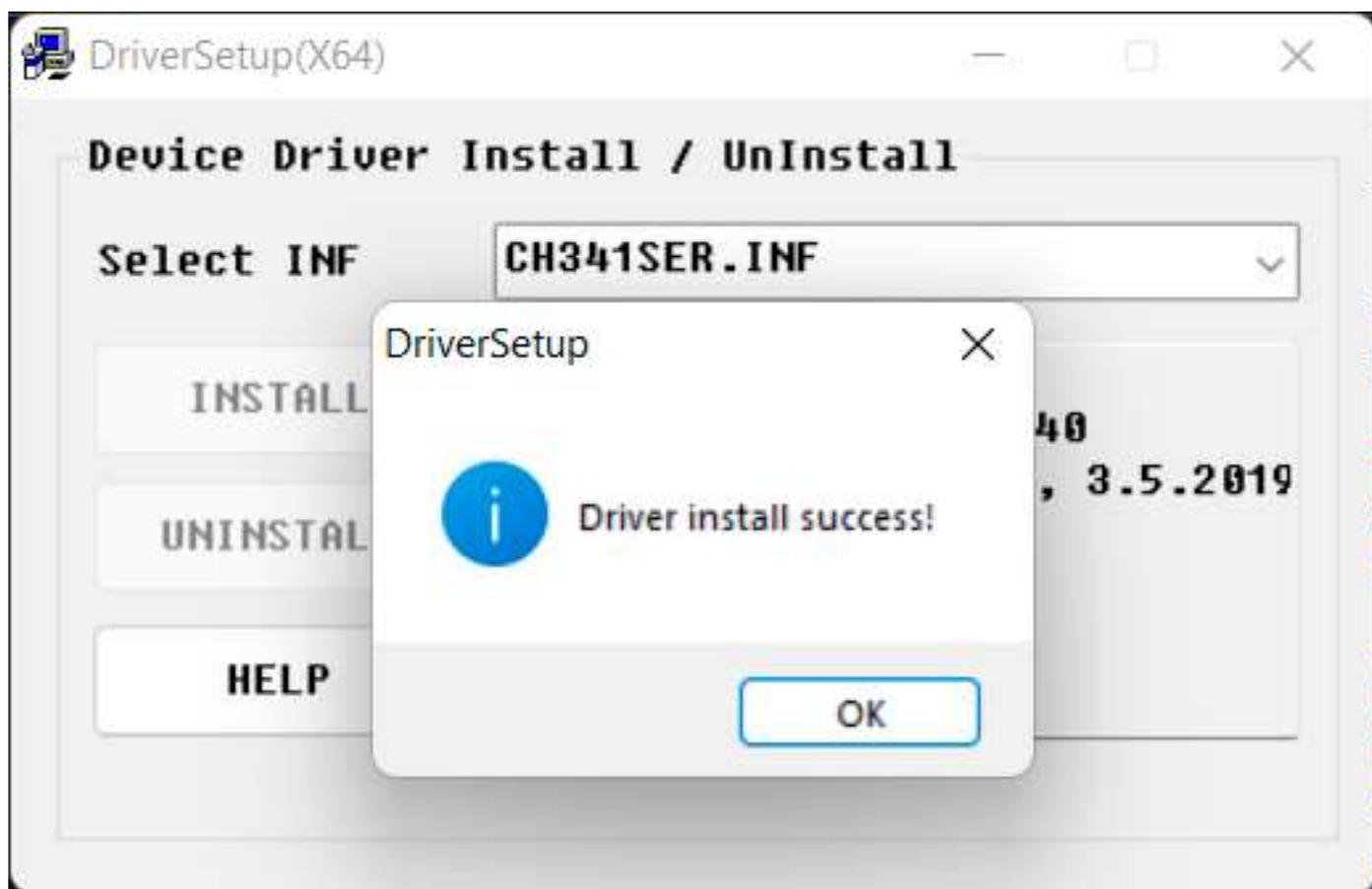
Unpack the archive with the driver. And run the file SETUP.EXE



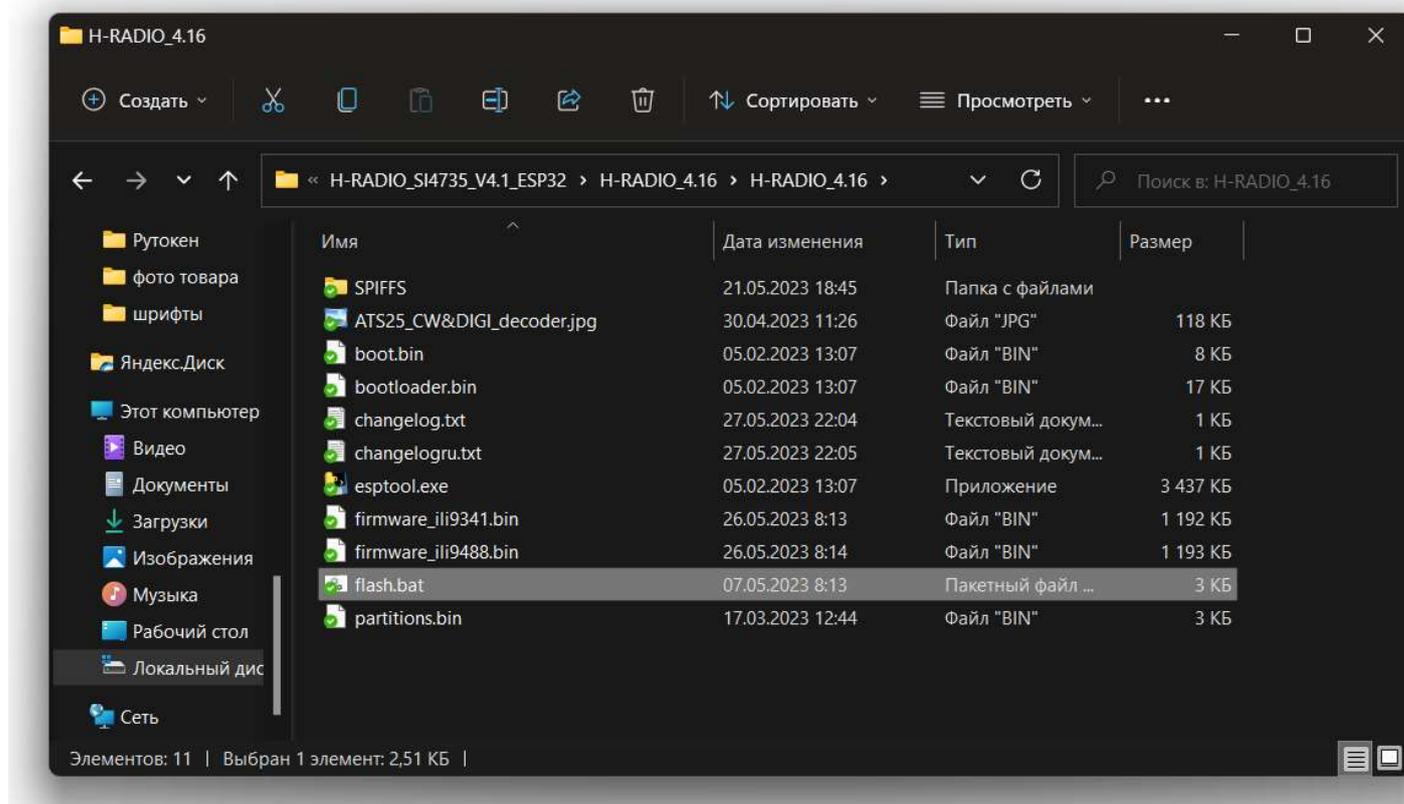
In the window that opens, click INSTALL



When the driver installation is complete, click OK



Now start the firmware installation process. To do this, run the FLASH.BAT file in the folder with the installation package of the latest firmware version.

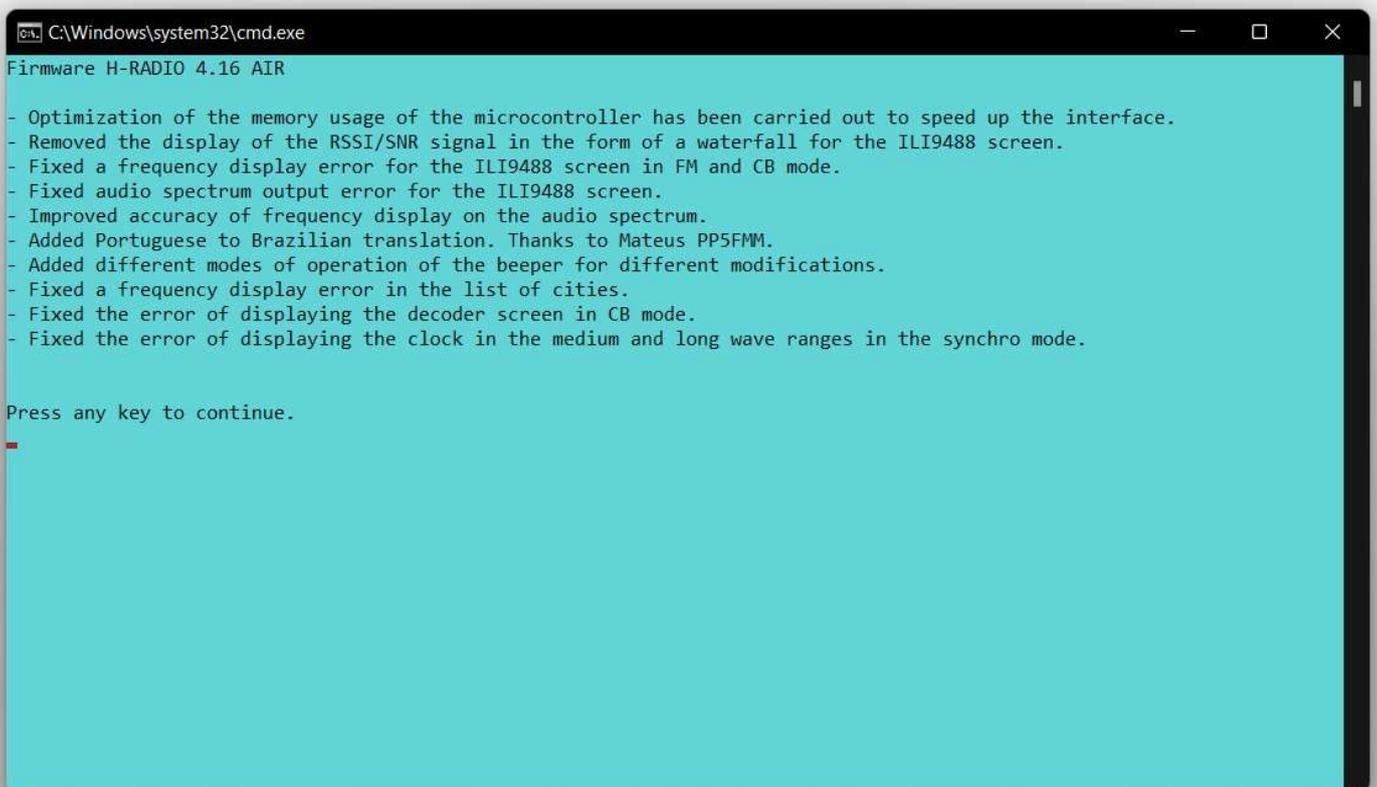


In the window that opens, select the installation language (1 or 2) and press Enter.



```
C:\Windows\system32\cmd.exe
LANGUAGE:
1 - ENGLISH, 2 - РУССКИЙ : 
```

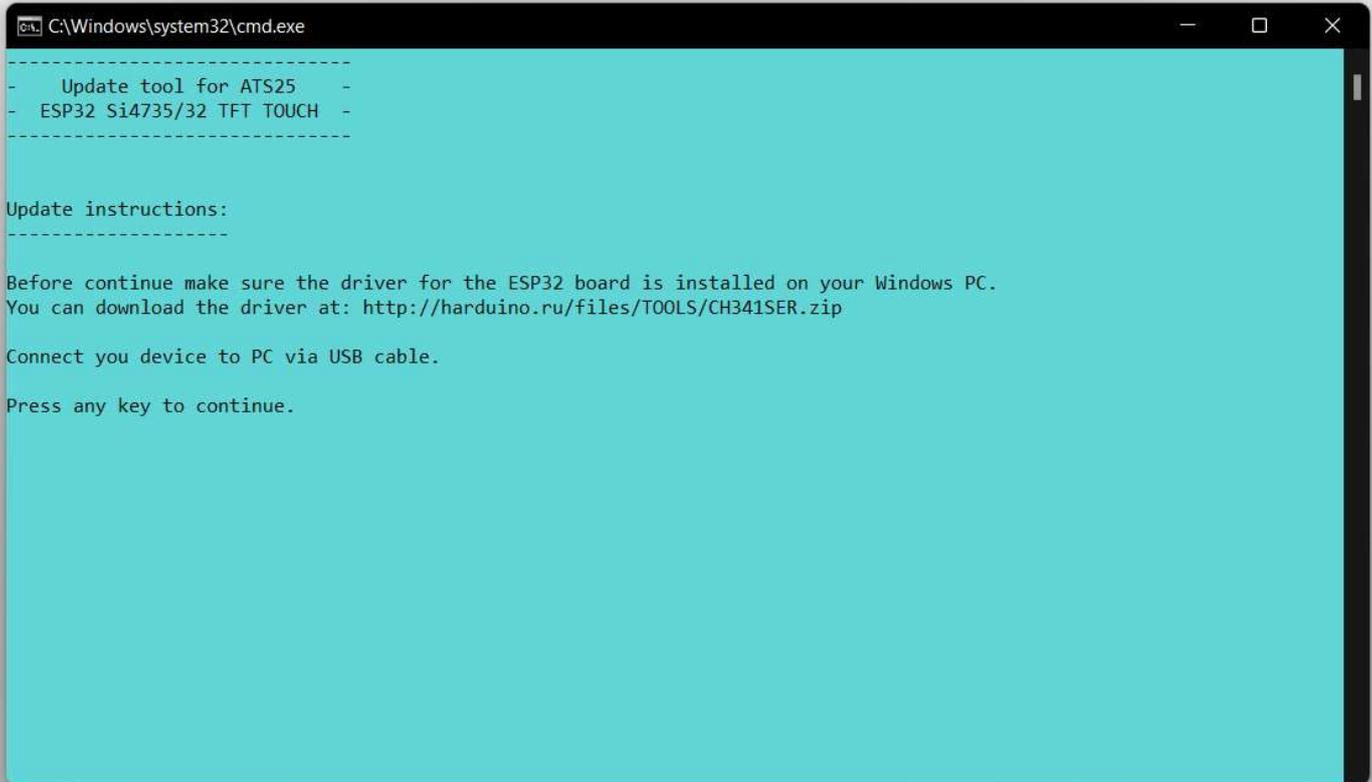
The next page displays information about changes in the current firmware version. Press any key to continue.



```
C:\Windows\system32\cmd.exe
Firmware H-RADIO 4.16 AIR
- Optimization of the memory usage of the microcontroller has been carried out to speed up the interface.
- Removed the display of the RSSI/SNR signal in the form of a waterfall for the ILI9488 screen.
- Fixed a frequency display error for the ILI9488 screen in FM and CB mode.
- Fixed audio spectrum output error for the ILI9488 screen.
- Improved accuracy of frequency display on the audio spectrum.
- Added Portuguese to Brazilian translation. Thanks to Mateus PP5FMM.
- Added different modes of operation of the beeper for different modifications.
- Fixed a frequency display error in the list of cities.
- Fixed the error of displaying the decoder screen in CB mode.
- Fixed the error of displaying the clock in the medium and long wave ranges in the synchro mode.

Press any key to continue.
-
```

In the next window, press any key to continue.



```
C:\Windows\system32\cmd.exe
-----
- Update tool for ATS25 -
- ESP32 Si4735/32 TFT TOUCH -
-----

Update instructions:
-----

Before continue make sure the driver for the ESP32 board is installed on your Windows PC.
You can download the driver at: http://harduino.ru/files/TOOLS/CH341SER.zip

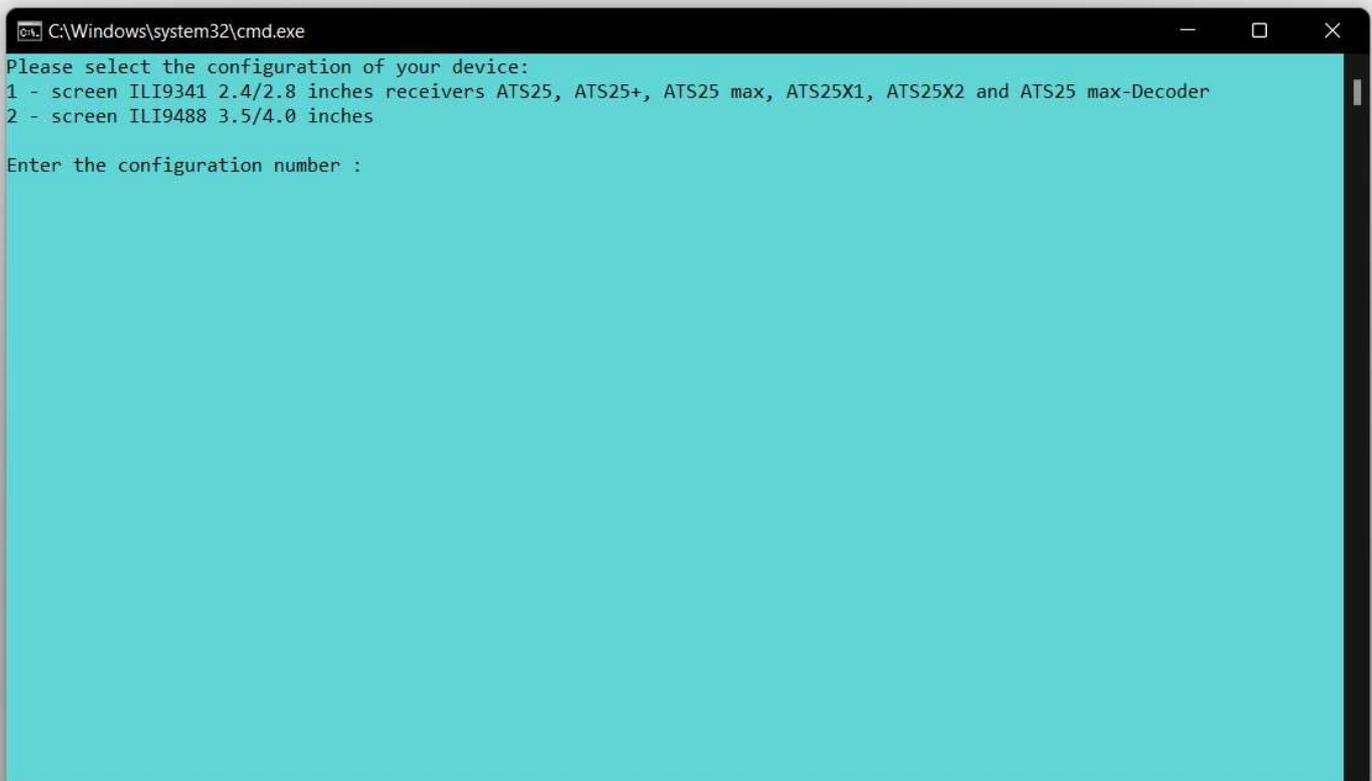
Connect you device to PC via USB cable.

Press any key to continue.
```

Next, select the configuration of your receiver:

1 – for a receiver with a 2.4 or 2.8 inch screen. These are all commercially available ATS25 receivers.

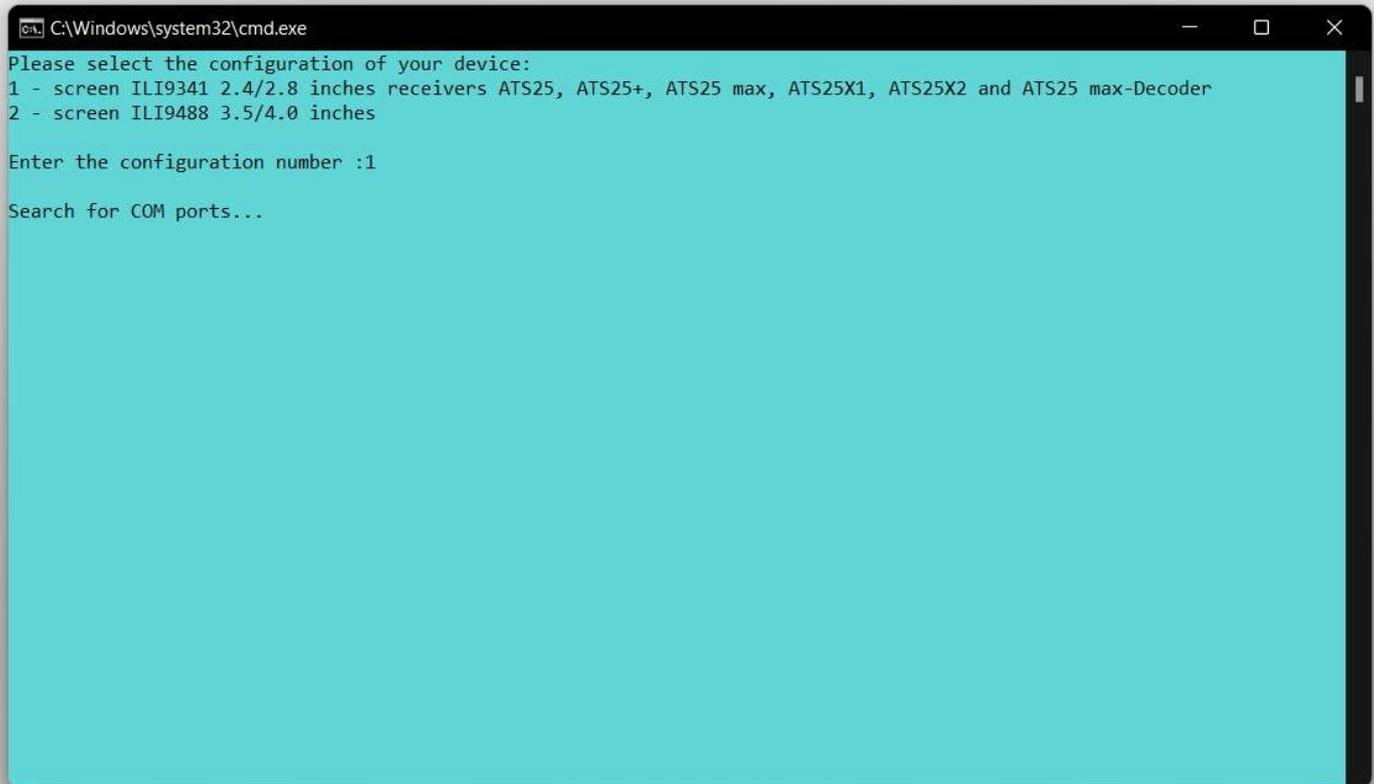
2 – for a receiver with a 3.5 or 4.0 inch screen.



```
C:\Windows\system32\cmd.exe
Please select the configuration of your device:
1 - screen ILI9341 2.4/2.8 inches receivers ATS25, ATS25+, ATS25 max, ATS25X1, ATS25X2 and ATS25 max-Decoder
2 - screen ILI9488 3.5/4.0 inches

Enter the configuration number :
```

The installer will search for connected devices.

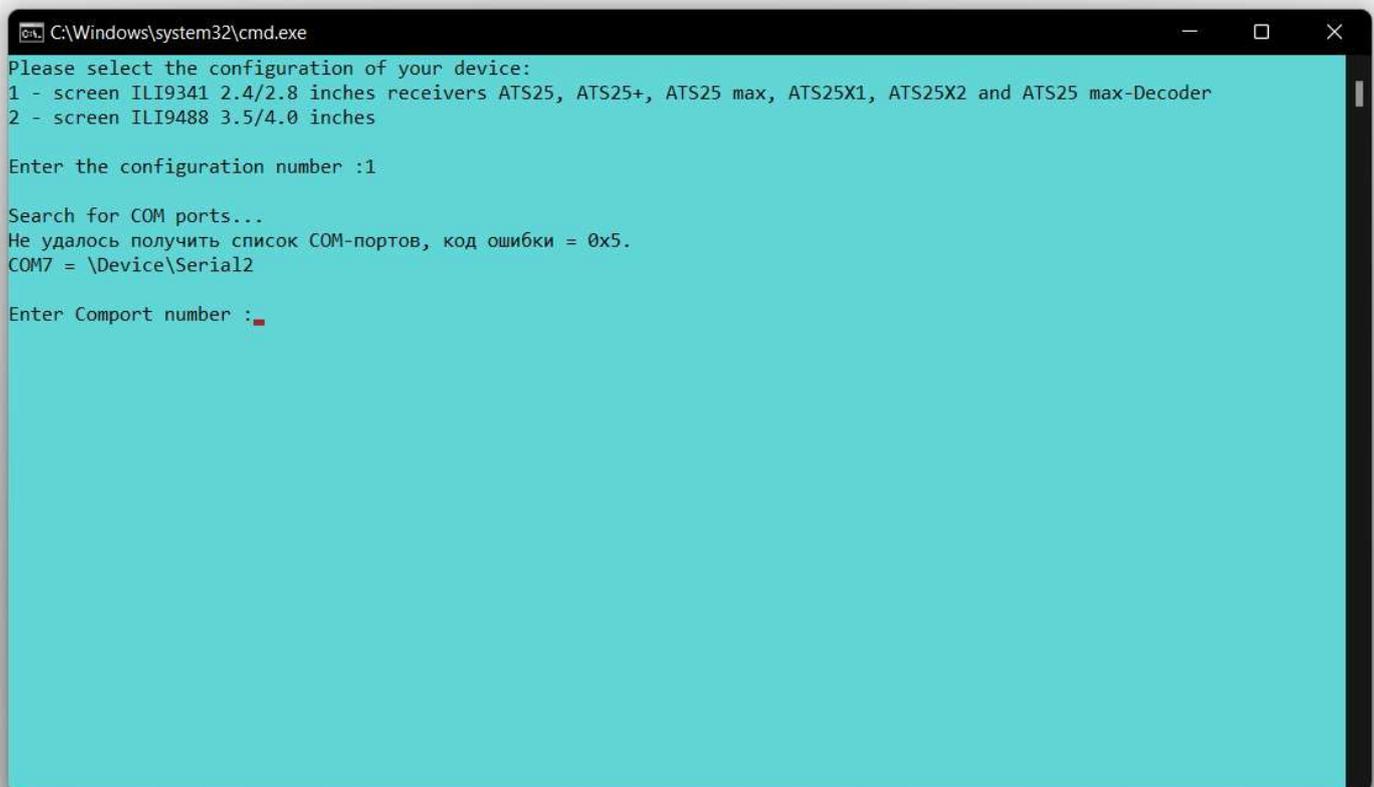


```
C:\Windows\system32\cmd.exe
Please select the configuration of your device:
1 - screen ILI9341 2.4/2.8 inches receivers ATS25, ATS25+, ATS25 max, ATS25X1, ATS25X2 and ATS25 max-Decoder
2 - screen ILI9488 3.5/4.0 inches

Enter the configuration number :1

Search for COM ports...
```

At the end of the device search, enter the number of the COM port to which your receiver is connected (COM port 7 in the picture).



```
C:\Windows\system32\cmd.exe
Please select the configuration of your device:
1 - screen ILI9341 2.4/2.8 inches receivers ATS25, ATS25+, ATS25 max, ATS25X1, ATS25X2 and ATS25 max-Decoder
2 - screen ILI9488 3.5/4.0 inches

Enter the configuration number :1

Search for COM ports...
Не удалось получить список COM-портов, код ошибки = 0x5.
COM7 = \Device\Serial2

Enter Comport number :_
```

The process of installing the firmware on the receiver will begin. The process is fully automatic and takes some time.

```
C:\Windows\system32\cmd.exe
Enter the configuration number :1

Search for COM ports...
Не удалось получить список COM-портов, код ошибки = 0x5.
COM7 = \Device\Serial2

Enter Comport number :7

esptool.py v3.1-dev
Serial port COM7
Connecting...
Chip is ESP32-D0WD (revision 1)
Features: WiFi, BT, Dual Core, 240MHz, VRef calibration in efuse, Coding Scheme None
Crystal is 40MHz
MAC: 9c:9c:1f:06:c7:40
Uploading stub...
Running stub...
Stub running...
Changing baud rate to 921600
Changed.
Configuring flash size...
Auto-detected Flash size: 4MB
Compressed 8192 bytes to 47...
Wrote 8192 bytes (47 compressed) at 0x0000e000 in 0.1 seconds (effective 478.4 kbit/s)...
Hash of data verified.
Compressed 17104 bytes to 11191...
Wrote 17104 bytes (11191 compressed) at 0x00001000 in 0.5 seconds (effective 251.1 kbit/s)...
Hash of data verified.
Compressed 1220512 bytes to 703276...
Writing at 0x0011dd0d... (93 %)
```

After the installation is complete, press any key to exit the installer.

```
C:\Windows\system32\cmd.exe
MAC: 9c:9c:1f:06:c7:40
Uploading stub...
Running stub...
Stub running...
Changing baud rate to 921600
Changed.
Configuring flash size...
Auto-detected Flash size: 4MB
Compressed 8192 bytes to 47...
Wrote 8192 bytes (47 compressed) at 0x0000e000 in 0.1 seconds (effective 478.4 kbit/s)...
Hash of data verified.
Compressed 17104 bytes to 11191...
Wrote 17104 bytes (11191 compressed) at 0x00001000 in 0.5 seconds (effective 251.1 kbit/s)...
Hash of data verified.
Compressed 1220512 bytes to 703276...
Wrote 1220512 bytes (703276 compressed) at 0x00010000 in 13.5 seconds (effective 725.9 kbit/s)...
Hash of data verified.
Compressed 3072 bytes to 128...
Wrote 3072 bytes (128 compressed) at 0x00008000 in 0.1 seconds (effective 273.1 kbit/s)...
Hash of data verified.

Leaving...
Hard resetting via RTS pin...

Update finished.

Press any key to continue.
```

The receiver will reboot itself and perform the initial initialization of the file system, if the H-RADIO firmware was not installed on it earlier. It will take some time. Please wait until initialization is complete and the window with the firmware version on the receiver is loaded.

The installation package in the SPIFFS folder contains files to download to the receiver:

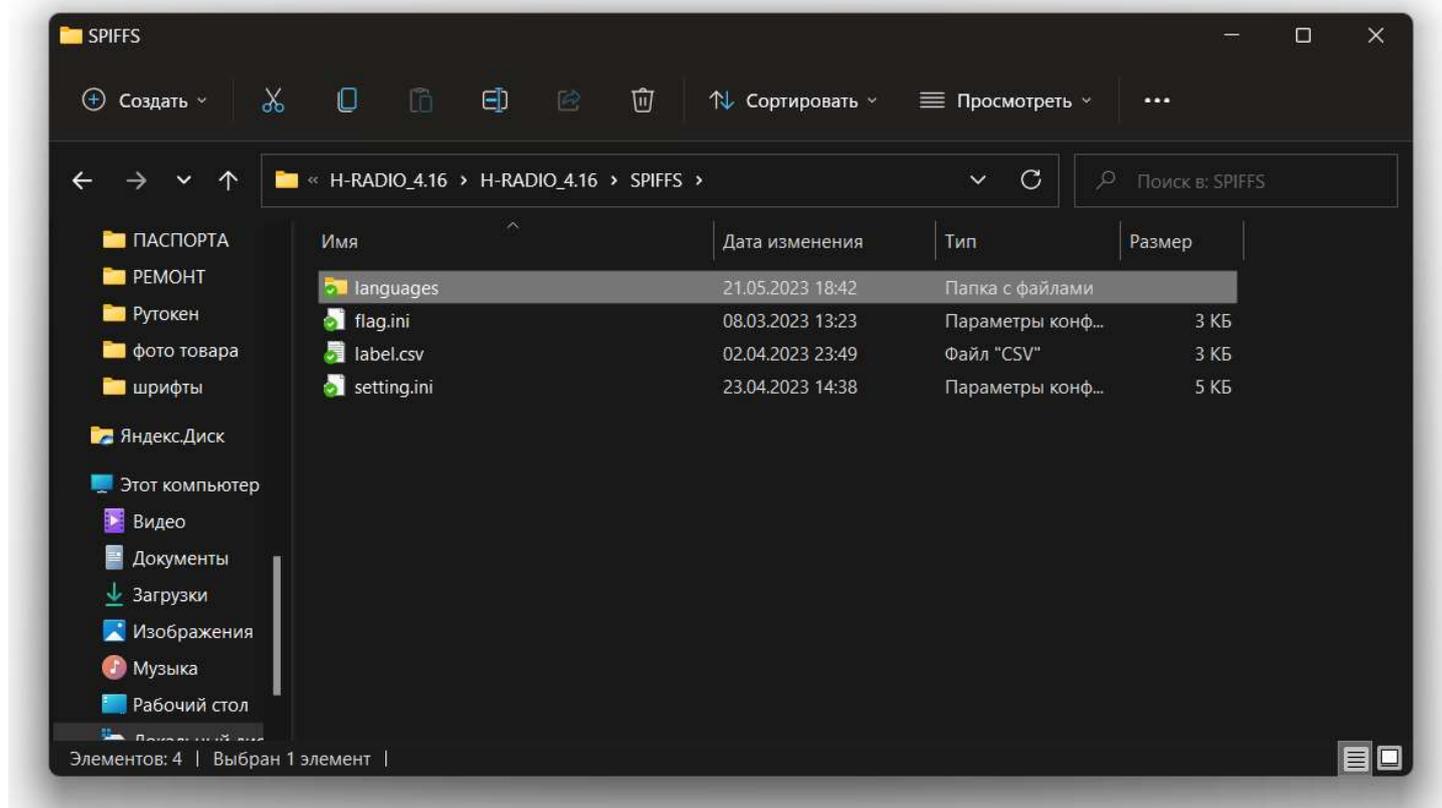
setting.ini – settings file for your receiver configuration;

label.csv file contains a list of sections of amateur radio bands for various types of communication;

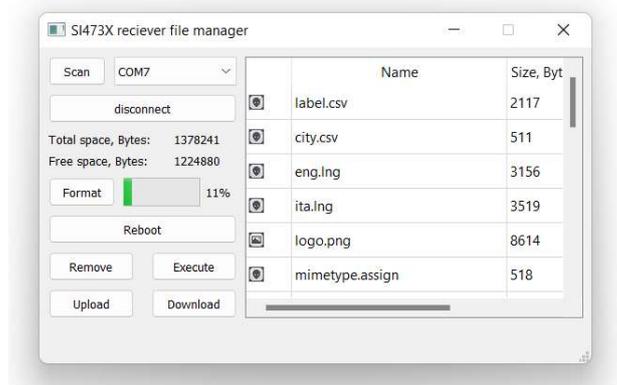
flag.ini file for displaying the flag for the selected language in the RDS text line (only for a receiver with a 3.5 or 4.0 inch screen);

language – a folder with localization files, select your language to translate the receiver interface.

All files can be edited by the user.



To upload files to the receiver, use the A-explorer program.



The A-explorer program with instructions can be downloaded on the download page:

<http://harduino.ru/index.php/en/download>

[H-RADIO SI4735 ILI9341/ILI9488 Crystal/SI5351 V4.15 ESP32 1.0.6 \(for receivers ATS25, ATS25+, ATS25max, ATS25X1 and ATS25X2 or for other receiver modifications:\)](#)  
For the CW and DIGI decoder to work, a modification of the receiver circuit is required (the circuit is attached in the archive with the firmware)

**FIRMWARE FOR ATS25 version 4.16 beta / 26.05.2023**

Download firmware for receiver ATS25 all modifications:

[H-RADIO SI4735 ILI9341/ILI9488 Crystal/SI5351 V4.16 beta ESP32 1.0.6 \(for receivers ATS25, ATS25+, ATS25max, ATS25X1 and ATS25X2 or for other receiver modifications:\)](#)

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[FLASH DOWNLOAD TOOLS V3.9.2 + instructions](#)

#### USB driver ESP32

[CH341SER driver](#)

There you will also find instructions for operating and activating the firmware.

[H-RADIO SI4735 ILI9341/ILI9488 Crystal/SI5351 V4.15 ESP32 1.0.6 \(for receivers ATS25, ATS25+, ATS25max, ATS25X1 and ATS25X2 or for other receiver modifications:\)](#)  
For the CW and DIGI decoder to work, a modification of the receiver circuit is required (the circuit is attached in the archive with the firmware)

**FIRMWARE FOR ATS25 version 4.16 beta / 26.05.2023**

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**ATTENTION the firmware is paid, and after installation you need to enter the activation key.**

Information about the method of purchase and the cost of the activation key is available on the page:

<http://harduino.ru/index.php/en/shop>

When updating previously installed and activated H-RADIO firmware, reactivation is not required. And all your settings and saved stations will be saved in the receiver's memory. You can save a backup copy of the files on your computer using the A-explorer program.