

WARNING: *Once this upgrading procedure is initiated, you can hold it and restart it whenever you wish, but the winder will remain inoperative until you have completed the full upgrading procedure.*

1. PURPOSE:

This document describes how to update your Tonewinder unit to the latest version of the software, from the version 10.70 or later for TW 1.2 R2 and earlier versions, and 10.80 or later for TW 1.3 versions.



Figure 1: New start page of this version

- **New version 10.73/10.73_ATC:** this version should only be installed on **TW 1.2 R2 units or earlier versions**, which has previously installed version 10.70/10.70_ATC or later version.
- **New version 10.83/10.83_ATC:** this version should only be installed on **TW 1.3 units**, which has previously installed version 10.80/10.80_ATC or later version.

If you have any doubts about the hardware or software version of your unit, please email us to confirm.

NOTE:

If your unit's software version is lower than 10.70, do not proceed with this update, as it will not work properly. If this is the case, email us and we will advise you on how to proceed.

2. SCOPE:

This update **can only be installed on Tonewinder units with the TMC2226 drivers:**

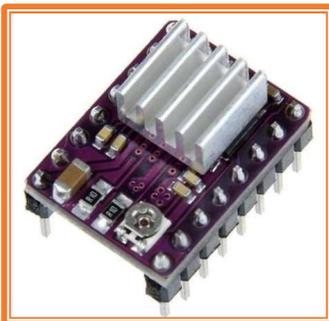


Figure 2: Old drivers (DRV8825). Purple color and grey heat sink. **Not compatible.**

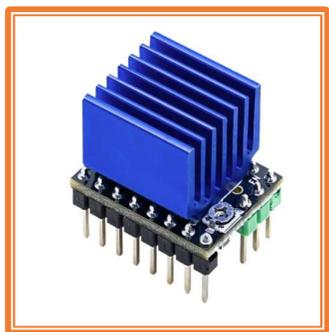


Figure 3: New drivers (TMC2226). Blue color and big blue heat sink. **Compatible.**

To find out what kind of drivers your unit has installed, you can do this with two checks:

1. **Verification by installed software version:** If your unit has software version 10.70 or higher installed, then you have the TMC2226 drivers installed. On the other hand, if your unit has version 10.66 or lower, then you have installed the DRV8825.
2. **Visual inspection of the interior:** If you open the top cover of your unit, you can see which type of drivers are installed.

In case your unit has the DRV8825 installed, in order to perform this upgrade you must first install the 'Silent Kit', which is available on our website:

- [SILENT KIT](#)

Once this kit has been installed, and the software version has been updated to 10.70, you may proceed with this upgrade.

3. IMPROVEMENTS IN THE NEW VERSION:

In this new version of software, the following improvements (or fixes) have been made:

1. New winding mode available: PATTERN MODE

In this new version, we've added a **new winding mode**, the PATTERN mode. You can find it inside the Table/Pattern Mode, in the New Bobbin menu:



Figure 4: View of the new NEW BOBBIN MANE page.

With this new mod, you continue having the TABLE MODE, in which you have up to six winding blocks to fill a coil, where you can select the number of turns and the filling factor you want in each block. In this case, the total number of turns will be the sum of the turns in each block, so the “TOTAL TURNS (PATTERN)” field will not apply, and it will remain at zero.

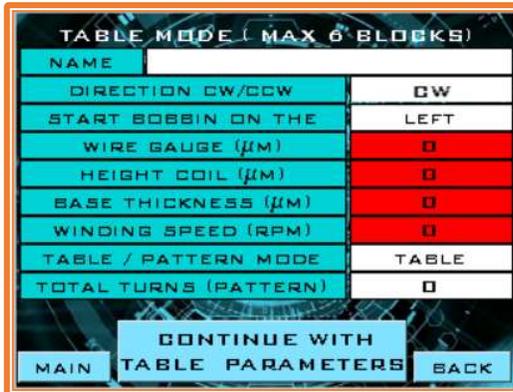


Figure 5: View of the new TABLE/PATTERN MODE page.

By clicking on the TABLE/PATTERN MODE (right field), you can change to this new mode. With this new mode you can define a filling pattern of up to 6 blocks (different filling factor in each of them), which will be repeated until completing the turns selected in the “Total Turns PATTERN” (only available in Pattern mode). In each block, you can define the filling factor and the number of turns of this block.

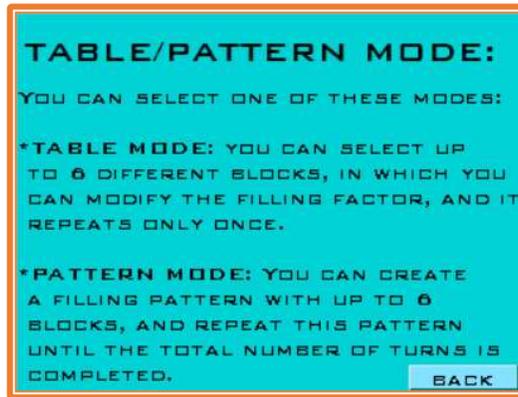


Figure 6: “TABLE/PATTERN MODE” help page.

The winding summary page will display the relevant information on the number of blocks, and the number of total cycles (this value will be 1 if Table mode is selected).

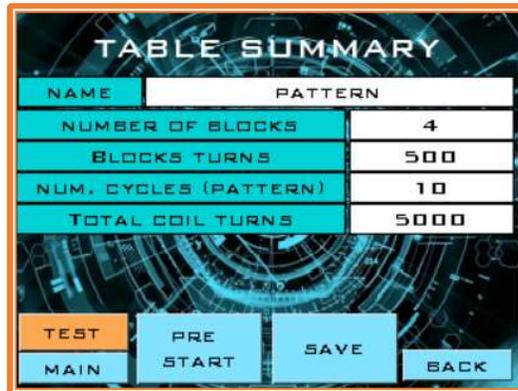


Figure 7: “TABLE/PATTERN SUMMARY” page.

2. **The Touchscreen Update (HMI) is now available from the server page, using a WIFI connection:**

From this software version onwards it is possible to update the touch screen software from the unit's web server, using the Wi-Fi network connection (not 5G), so it is no longer necessary to use an SD card (Micro SD Card will still be necessary if the update via Server would be interrupted before to reach 100%).

The new system to update the HMI software will take around 15/20 minutes, depending on the Wi-Fi connection speed. Using the SD card method takes much less time (3 or 4 minutes), but it may be affected by SD card compatibility, and you would need to have a reader/writer for these cards.

To proceed with the HMI software update, you have to connect your Tonewinder unit to your WIFI network, just as you do to update the microcontroller software. In the web server that will appear in the browser of your PC, there will be an additional option to update the software of your touch screen (HMI):

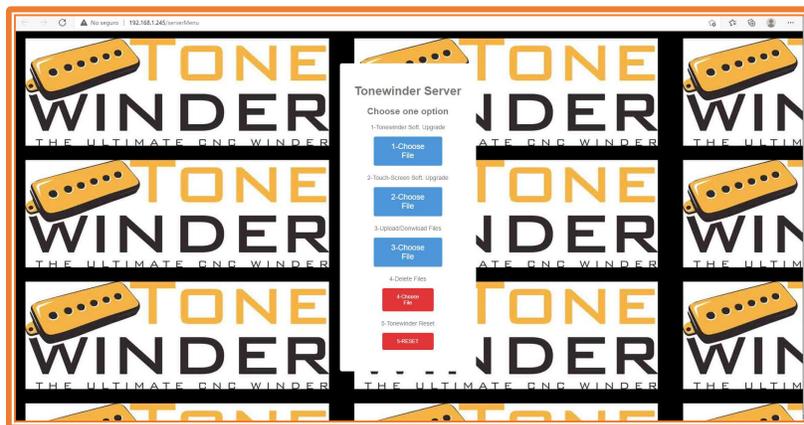


Figure 8: New Tonewinder Server.



Figure 9: Use second option in the Server.

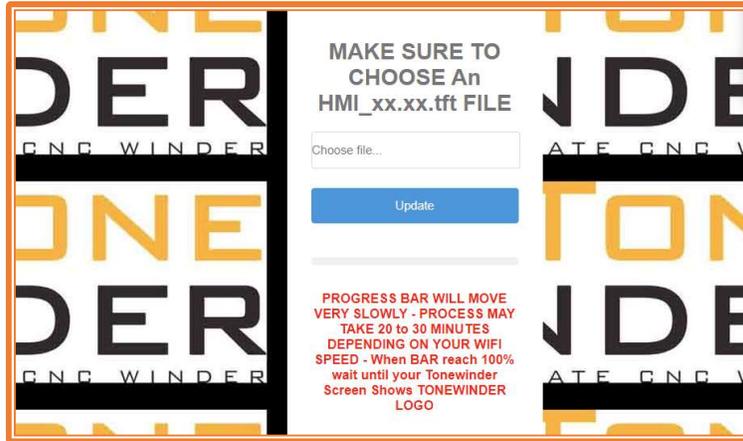


Figure 8: Select the “tft” extension file.

3. The winding speed is now available in the RUNNING PAGE for all modes:

The winding speed is available on the RUNNING page, showing how fast the coil rotates.

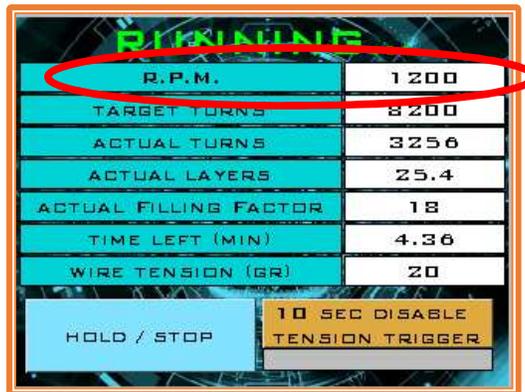


Figure 9: New RUNNING page.

4. The STOP button works now more reliably:

During winding, pressing the STOP button sometimes did not stop the winding, and had to be pressed several times. This problem has been solved in this version of the software.

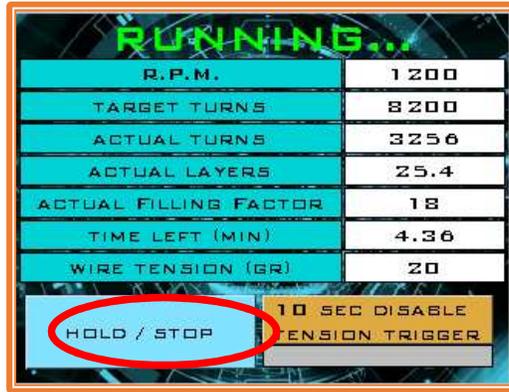


Figure 10: STOP button.

4. DOWNLOAD SOFTWARE VERSION:

You can download the zipped folder called “TONEWINDER 10.73/10.83 SOFTWARE” from our website, www.tonewinder.es, in the “DOWNLOADS” section, where you will find all the files and software that you need to upgrade your unit:

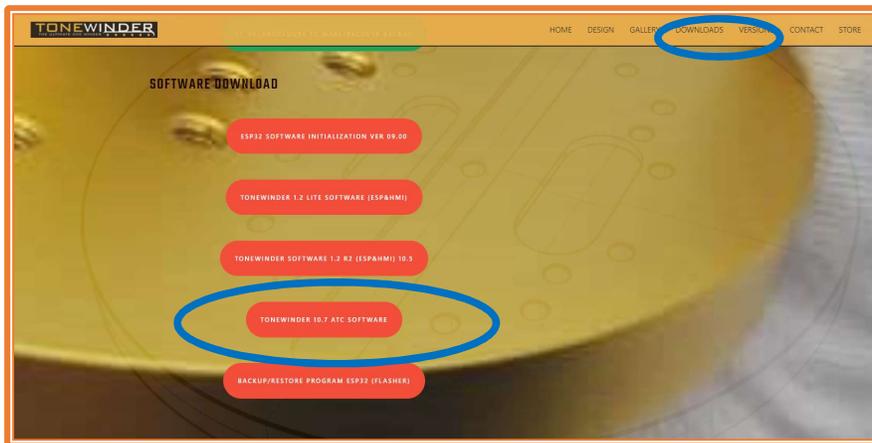


Figure 11: Download “TONEWINDER 10.73-10.83 SOFTWARE” folder.

Unzip this file in C:\ (for example). After unzipping this file you’ll find all these folders inside:

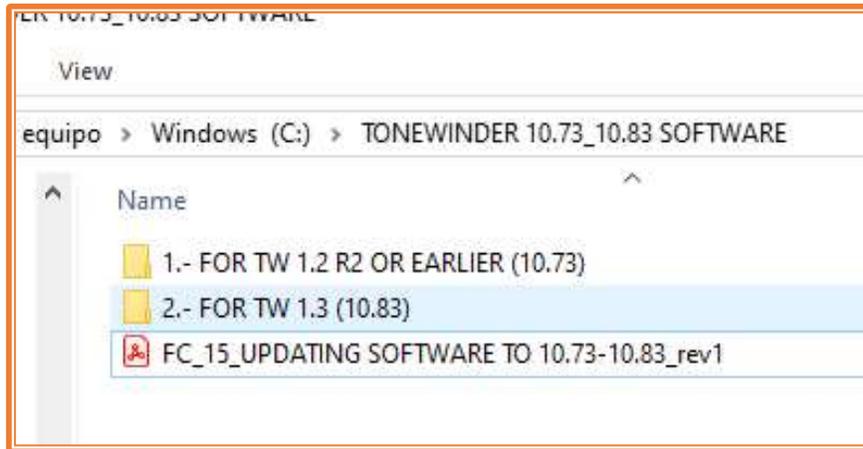


Figure 12: Folders inside of “TONEWINDER 10.73-10.83 SOFTWARE”.

Select the folder that match with the version of your winder, for example “2.- FOR TW 1.3 (10.83)”:

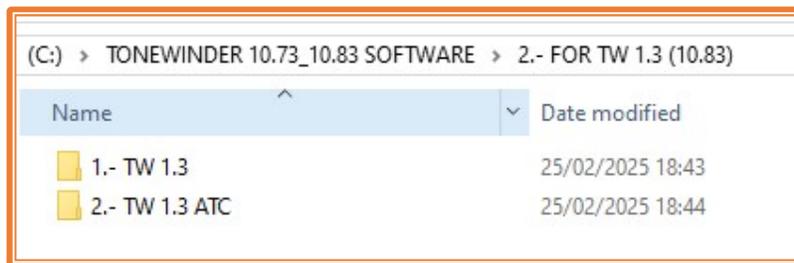


Figure 13: Folders inside of “2.- FOR TW 1.3 (10.83)”.

Select the appropriate one depending on whether the ATC is installed in your winder, for example “2.- TW 1.3 ATC”:

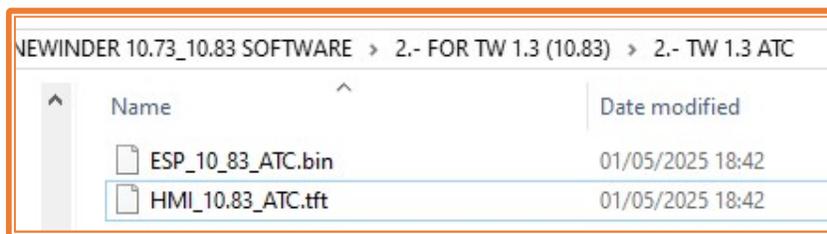


Figure 14: Files inside of “2.- TW 1.3 ATC”.

You will need those files to update your winder correctly.

5. INSTALL THE UPDATE:

Here are the steps to follow to install this new software version:

- **STEP 1:** Make a backup (mirror copy) of your current ESP memory. To carry out this task, download the FLASHER PROGRAM from our website:

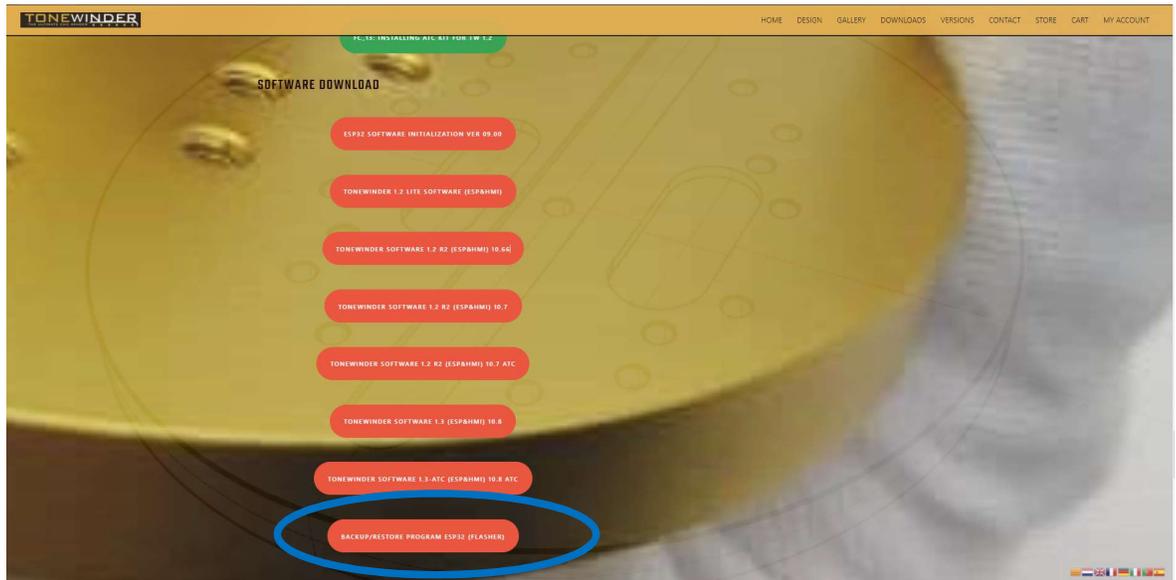


Figure 15: BACKUP/RESTORE PROGRAM ESP32 (FLASHER)

With this program, you will be able to create a mirror copy of your current ESP, just in case you have an issue during the updating process.

Connect the winder to your PC using a USB C cable (The power supply plug must be disconnected from the winder), and the touch screen will light up.

Then, select the COM port where the winder is connected (if you have any doubt regarding which port it is using, you can open the "Device Manager" program and list the COM ports, to find in which port your winder is connected (USB-SERIAL CH340(comX)):

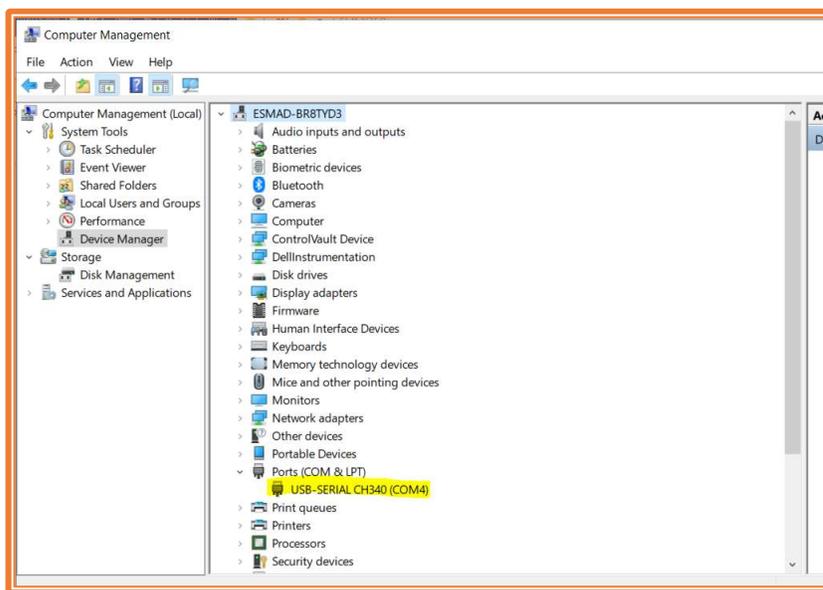


Figure 16: Device Manager program.

Once you know which port it is using, run the file “**DownTonewinderFLASH.bat**” located in this folder, and follow the instructions.

If all goes well, you will see a progression during it makes a copy into your PC.

When the procedure is finished, you will see a new file in the folder, which is called “**tonewinderMemory_FLASH.bin**”, and this is your mirror copy, so you should keep it in a safe place.

NOTE: If you don't have any saved presets, you can skip this step.

- **STEP 2:** Before proceeding, you must keep the current "**BASIC PARAMETERS**" that are set in your winder. Later you will need it to rewrite in the ESP microcontroller, in case it has been reset during the software upgrade.

To do this, disconnect the USB-C cable from your unit, connect the power supply plug, and switch on the winder.

Then, navigate to the “**BASIC PARAMETERS**” Screen and take a picture of this screen.

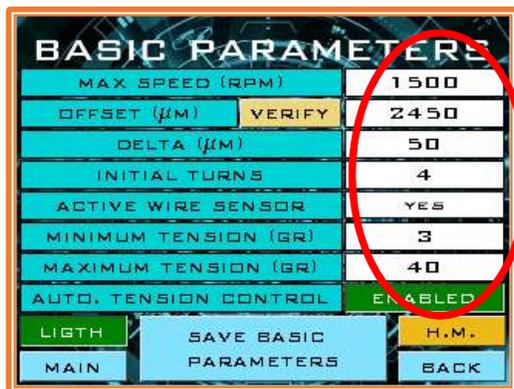


Figure 17: Basic parameters screen.

If your Basic parameters page has the “H.M.” (Hidden Menu) button, press it and access the menu using the code “2024”. You will then enter the calibration menu of the arm to check what type of calibration your unit has:

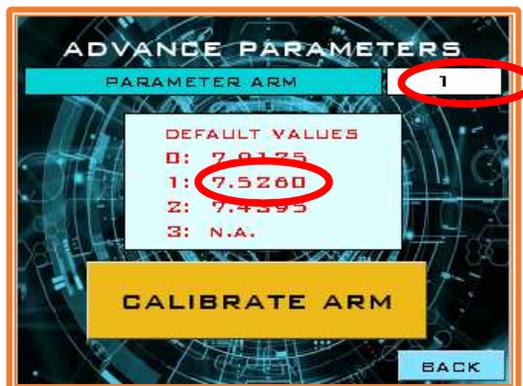


Figure 18: Advance parameters screen.

Please, write down these numbers and keep them. You will need them later to calibrate your unit to the correct values once the new software version is updated.

NOTE: In case you have not recorded this data, there is a procedure to recalibrate it from scratch.

- **STEP 3:** Upgrade the ESP32 Microcontroller software with “ESP_10_83_ATC.bin” (**for TW 1.3 ATC versions, but you have to choose your software version**).

Switch on the winder (connected to the power supply), and go to the “SOFTWARE UPDATE” section. Enter your Wi-Fi network name and password, and press ‘Connect’. Once the

microcontroller has connected to your Wi-Fi Network, it will show you the IP address so you can connect to it (for example 192.168.1.150). Press the big button to open the connection between your winder and your PC.



Figure 19: Press the button to open the Tonewinder connection.

Then, write this IP address in your Internet navigator address field and press Enter:



Figure 20: Write the IP address of your winder in your navigator.

When the winder connects with your PC, you will see this screen in your navigator page:

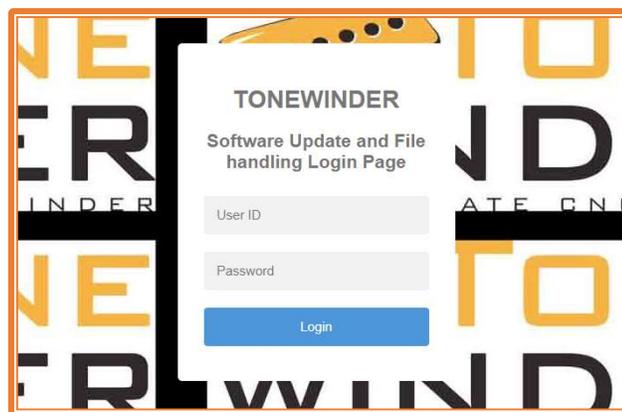


Figure 21: Basic parameters screen.

Use “admin” as the User ID, and “tonewinder” as the password, and press “Login”.

Select the first option “1.- Tonewinder Software Upgrade”, and choose the file to update “ESP_10_83_ATC.bin”, located in the path C:\TONEWINDER 10.73-10.83 SOFTWARE\2.- FOR TW 1.3 (10.83)\2.-TW 1.3 ATC”. **Remember this is an example, and you have to choose the correct version for your winder.**

Once the software is loaded, the winder will be reset.

If you have any doubts about the upload software procedure, please see section “6.5.6.5.- Software update”, in the manual.

- **STEP 4:** To update the touch screen software, with the file "HMI 10.83_ATC.tft" located in the folder, connect the winder to your PC as described in STEP 3, and select the second option “2.- Touch-screen Software Upgrade”.



Figure 22: Press the blue button.

Then select the file with “tft” extension:

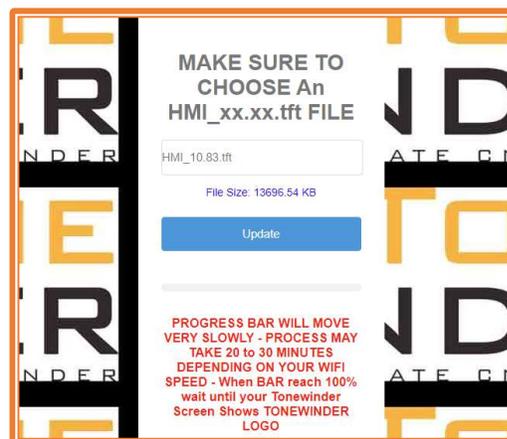


Figure 23: Select the proper file and press UPDATE.

As soon as you press UPDATE, you will see this screen in the winder, and you must wait until it reaches 100% (it should take around 15/18 minutes):



Figure 24: Touchscreen view during the updating process.

During this process, the communication with the PC and the Wi-Fi network must not be interrupted, otherwise the update process will stop and the touch screen will not be updated.

NOTE: In case of interruption, you will have to update the touch screen software using the usual procedure (with a micro SD card), described in section '6.5.6.5 Touch Screen Software Update'.

If the upgrade has been completed successfully, your unit will restart automatically. After this restart, the unit will perform the usual initialization process. In case of unsuccessful completion, please turn your winder off and on again (Most of the time it needs two restarts to synchronize both software). After that, you should see the new software versions:

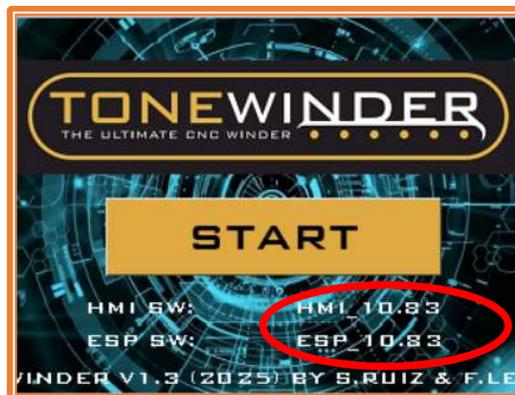


Figure 25: START page with new software versions.

-
- **STEP 5:** Go to MAIN MENU>SETTINGS>BASIC PARAMETERS, and set the parameters to your previous value, in case they are modified.

 - **STEP 7:** Access to the Hidden Menu, and restore the calibration arm parameter of your unit. Also you can recalibrate the arm by pressing the “Calibrate Arm” button and following the instructions.

NOTE: All of these software versions have been thoroughly tested. However, if you find any bugs, problems or inconsistencies, please let us know.

6. CONTACT FOR SUPPORTING:

If you face any kind of problem during this procedure, please contact us by email:

info@tonewinder.es