SSTV/HF-FAX Robotator for Windows -HOWTO

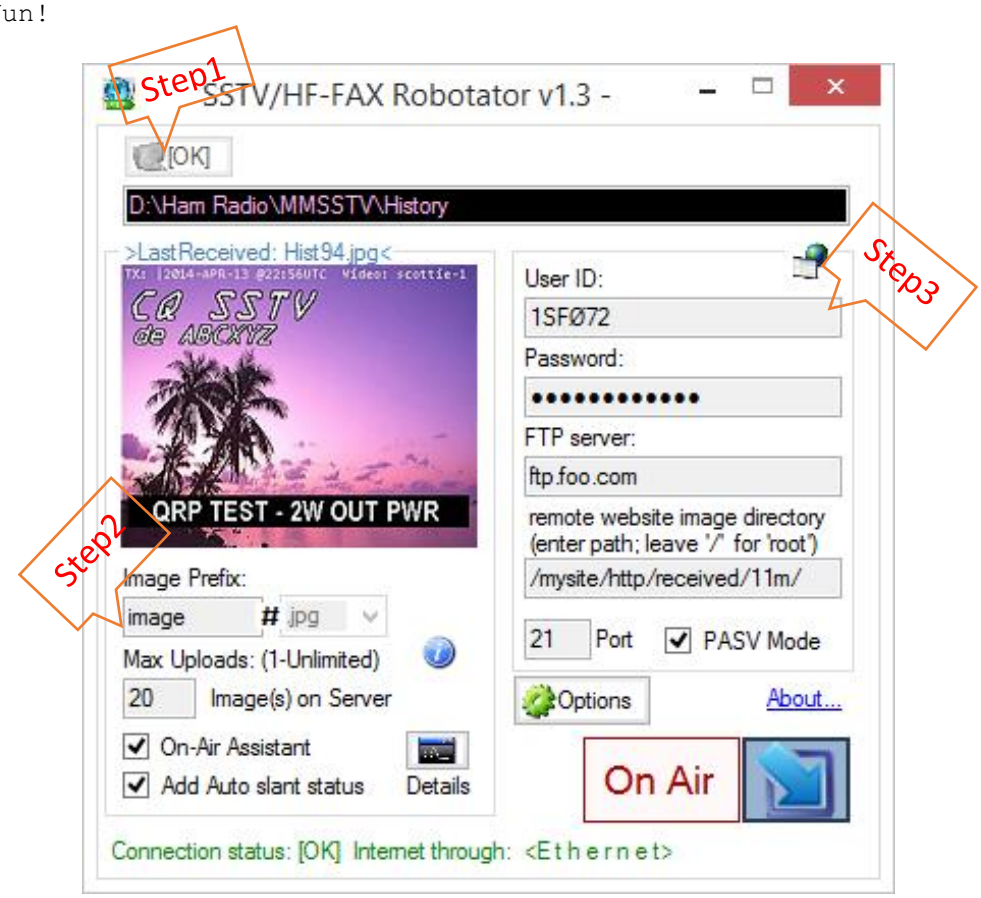
Version 1.3.0.3 based **on .NET Framework 4.5.1** (for **Windows 8.1** and **Windows 8**)

Also works on **Windows 7 SP1** and **Windows Vista SP2** (.NET Framework **4.5.1** must be installed on your computer)

Quick guide.

[This manual has been revised and replaces any other manual written for previous versions]

SSTV Robotator is a small executable program developed to post and automatically update SSTV images on websites. To get started just follow these three easy steps and have fun!



Step 1: Click the "Set" button then browse and select your **SSTV auto save folder.** Auto save folder is the local directory where your SSTV software stores all received pictures.

Step 2: Enter a name into the "Image Prefix" box, or simply leave its default value. Prefix is part of the filename that will be assigned (with a number) to each one of your received pictures when posted on a web server. Default value for prefix is "image" and you can choose formats between *.jpg, *.bmp, *.png or *.gif. **NOTICE:** *You must set image name (**prefix**), **file format** and **Max Uploads** value accordingly to the HTML code into your web page.* – Also, see 'Options' to learn about On-Air Assistant and all the other program features.

Step 3: Enter your FTP credentials, remote image directory path, and leave default port number (21). Either hostnames or IP addresses are valid for the server field. If you are behind a firewall/router, remember to enable the PASV Mode (tick the PASV box).

When these three basic steps are completed, you can click the 'Start' button and Robotator will be ready and operating. Turn your radio on and... Have a good time!

INFO: Hints relevant to FTP connections: Do I choose ACTIVE or PASSIVE mode?

Shortly, when you set 'Active' transfer mode, a **server starts connections** to a client. When mode is set to 'Passive' instead, a **client will initiate connections** to a server.

From Windows XP times till today, security tools have been embedded to OS; if you choose 'Active mode' FTP you'll be asked to put an exception to your Windows Firewall. This will happen because connections **are attempted from the outside** and you have to authorize Robotator to exchange data with your server. In addition, today's modem-routers also have firewalls built in, so you should set rules to accept incoming connections directed to local TCP ports 1024-5000 (entire range).

If you don't wanna deal with firewall configurations, PASV mode will be the best choice as passive mode today is supported by almost all FTP servers.

INFO: Some useful suggestions when creating your websites:

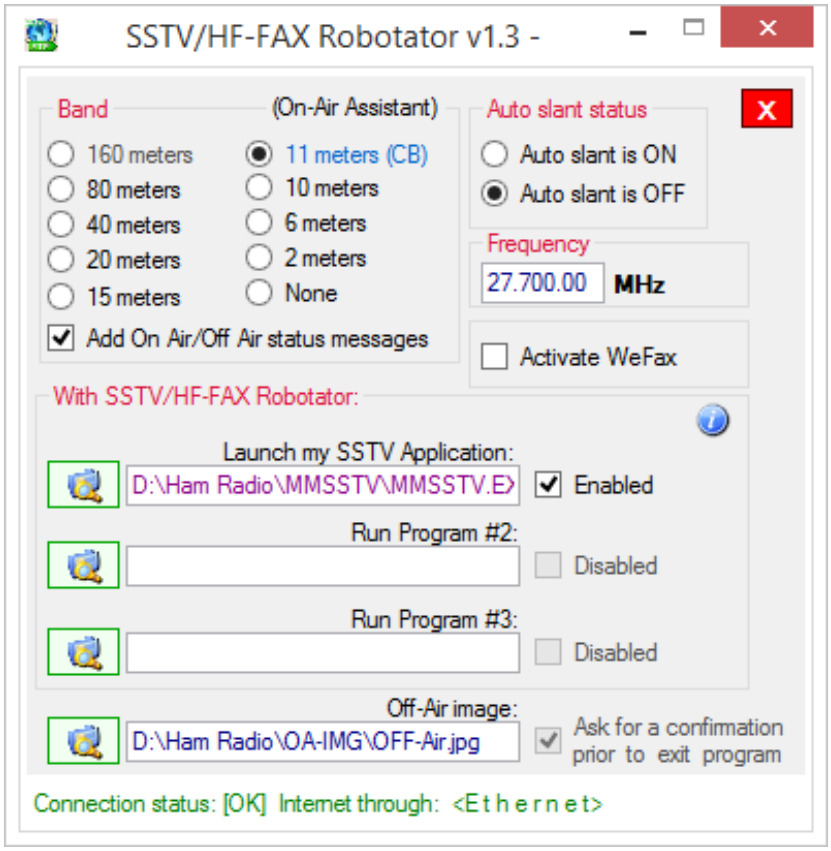
Do not change Robotator configuration once your pages have been built, otherwise your website may encounter errors and Robotator may refuse to work correctly. This occurs because your HTML and javascript code would become unsuitable. If you need to change Robotator settings, you must apply suitable changes to your website.

As of version 1.3 Robotator offers more features including WeFax mode and frequency / QSY visual announcements. SSTV-Robotator today becomes 'SSTV/HF-FAX Robotator for Windows'.

MMSSTV USERS, PSE NOTICE: The number of pictures that MMSSTV may store to the 'History' folder is not depending on your hard disk storage capacity but it **is *limited* by software to a fixed value (256 pics max).** Robotator stops displaying/uploading more images when that number of pics will be reached. **THIS IS NOT A BUG OF ROBOTATOR !!** This occurs simply because once MMSSTV reached that limit it won't create any new files within the History folder but it starts to overwrite all the existing ones instead. There is a workaround to 'remove' this limit:

- Create a new folder anywhere on your hard drive and give it a name (e.g., "**Autosave**". Remember its path (e.g., **C:\Autosave**)
- Open MMSSTV and left click on the "History" tab above the reception window;
- Right click on the image area then select "**Autocopy to another folder**". You won't see the tick but don't care about it and go ahead;
- Select now "**Assign another folder name**" then enter path pointing to the folder you just created (in this example, C:\Autosave). Remember also to enter this location into Robotator settings (Local path-to-images textbox).
- That's it. MMSSTV now will copy every new received image to the new directory regardless of the limit set for the 'History folder' and Robotator will not encounter any issues.

Options: ON-Air Assistant and SSTV/WeFAX program Launcher



When you enable the On-Air Assistant (by ticking its checkbox in the main window), auto slant checkbox becomes active so you will be able to select Band and Auto slant status in the **Options** window. Frequency will be set automatically when you select a band, but you can modify it manually every time you'll need to do so, before any transmission. In addition, this program will create and put a special JS file (status.js) to your **remote SSTV or WeFax image directory**. You can manage variables contained into *this JS file* to ***print status text messages and operating frequency on your web page***. Please refer to my Web Samples included with this guide to have an idea on how this thing works; simply have a look at the HTML and feel free to steal and modify it to your own needs.

NOTICE: Robotator will not add 'frequency' and 'ON-Air' variables to the status.js file when On-Air status messages are disabled; likewise, Robotator will not add an 'Auto slant' variable to the status.js file if Auto slant status is disabled.

On-Air/Off-Air Status messages:

On-Air announcement, QRG Display, and OFF-Air image when program exits.

When you tick the 'On-Air Assistant' checkbox with no options, it will work in a basic mode and only a few reception details like date and time will display on a web page, assuming you have written proper html code.

By enabling On/Off-Air status messages, the Off-Air file browser button will become clickable so you can select an image from your Hard disk. File format and image size must be the same as pictures hosted on your website.

When **you hit the start button**, the program will append three additional variables ('status' 'statusOnly' and frequency) to the status.js file. You can use them to display messages and frequency on your website. Moreover, the program will overwrite an existing Off-Air image (if any), replacing it with an 'ON-Air Announcement' picture. When you enter a frequency into the QRG box (this goes automatically when selecting HF bands) your frequency will be overlayed to the ON-Air picture like this:

As this On-Air banner will disappear after reception of the first image, you can also use the **frequency javascript variable** to display your QRG **as text** somewhere on your page; **this will be your QSY indicator every time you change frequency**. A piece of code (snippet) to do this may be like

```
<script type="text/javascript"><!--

if (statusOnly != 'OFF Air') {
document.write('<font face=Tahoma size=2 color=ffffff>' + statusOnly + ': ' + QRG + '</font>');
}
if (statusOnly == 'OFF Air') {
document.write('<font face=Tahoma size=2 color=ffffff>' + statusOnly + '</font>');
}
var reload=10
setTimeout("location.reload();",reload*1000);
//--></script>
```

variable variable variable

Do not forget to link your web page to your 'status.js' because all variables you need are declared into that file.

When **you quit Robotator** instead, the Off-Air image will be automatically sent to your web page; if your page also contains a status message displayed by a javascript this will be set to *OFF air*.

Sadly, I can't teach you Javascript or any other programming language by a software manual, so you have to find your own way for this.

Please notice that **both ON Air and OFF Air features will not work if the 'Off-air' image textbox is left blank.** (Functions will be disabled when you leave the 'Options' screen or minimize the GUI)

If you are using the *.gif format your ON-Air image will get a blinking text; Please notice that QRG overlay will not work with this format anyway. Remember: When building your web pages, do not choose an image format unsupported by your SSTV or WeFax software.

Setting the program launcher.

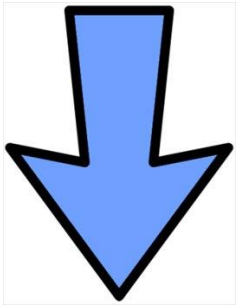
When started, Robotator is also capable of launching your favorite SSTV or WeFax application. Click the first file browser button and move to your SSTV or WeFax application directory, then set full path to the program's main executable file. Last, check off the "Disabled" box on the right and you will enable your SSTV or WeFax application to be fired every time you launch Robotator.

Robotator can even launch three more software applications; please notice that programs launched with Robotator will appear on the screen in a normal window state, so later they will need to be minimized or closed manually.

WeFax reception on websites.

To post WeFax images on your site set Robotator to HF-Fax mode, then launch your usual We-Fax application to decode maps. Robotator HF-Fax mode works exactly as it does for SSTV with the only difference that you can post/update only one map. When using WeFax mode, ON-Air and OFF-Air images will be disabled and cannot be displayed on your website.

This usage guide ends here. The next part will be about some common application issues and general warnings. Should you encounter a problem, probably here below you will find the right solution, please read with care anyway.



Troubleshooting

As every software created on the earth, Robotator may have bugs; it is still a fresh project and like any other things made by humans, it can be, and it will be improved in the future. (That's depending on my spare time)

I have coded **version 1.3.0.3** expressly for **Windows 8.1 / windows 8** and it runs seamlessly, very fast and reliable. **Windows 8.1 includes .NET 4.5.1 Framework** natively and **windows 8 has v4.5** so *if you have Windows 8.1 or windows 8, you don't have to install anything else to run Robotator*. To run this application on **Windows 7** or **Vista** computers instead, **you will have to install at least the .NET Framework 4.5 (**a **.NET Framework 4.5.1** installation is highly suggested**)**

In the event your computer would require installation, get it from the Microsoft Download Center.

I am using Robotator to post pics on my own website with no sort of issues, **if you cannot run this program at all** on *your* computer...

Please check if at least the **.NET Framework 4.5** has been installed on your PC. I will not compile anymore for older versions of this platform, so windows XP is no longer supported, sorry.

It is advisable to delete manually the program's configuration directory named 'skylab-1' at the hidden location *C:\Users\<pc-user>\AppData\Local* before using a new Robotator version, or in case you experienced problems in starting the application.

Also, check for any possible software restrictions that could have been implemented on your machine by means of special policies. Please notice that SSTV Robotator **is fully portable**, and does not require system installation or administrator rights to run, so normally it should start instantly.

However, if you will obtain no results...

- You are using an unsupported Windows OS.
- We are in the 21st century... Consider a HW/OS upgrade to Windows 8 or at least to W7;
- Rely on other software solutions;
- Write *your own* FTP application that will do the same job.

This computer program is intended for people who have minimal skills on Windows Operating Systems and at least a little knowledge of Web development. If you cannot get this program running on your pc or if you are not able to build your own website it's your fault, not mine; if you think you can do even better instead... Just do it, actions speak louder than words. Remember, this software **is offered for free** *and nobody will force anybody to use my applications if not satisfied, so please, don't bother me with absurd requests or complaints; you would waste your time. Moreover, you will be the sole responsible when you mess with your computer or with any software downloaded from the Internet. If you are reading this document, you have downloaded and accepted this program "As-is".*

Anyway, we'll take a look at some minor issues that may occur when program runs smoothly instead. These problems are usually due to user's wrong operations or remote server faults:

- Problem: **Application repeatedly seems to freeze during file transfer operation. Server connections appear damn slow…**

- Solution: **...Obtain web hosting elsewhere. Your host is certainly offering you a very poor service.** Robotator needs a reliable FTP connection to work properly. Extremely slow/band-limited connections will lead to this kind of issues, ending for sure in 'Timeout' exceptions.

- Problem: **Internet connection seems to be OK, Web server is up and credentials have been set correctly but no received pictures uploaded to Website.**

- Solution: **Check local image folder path**: *maybe for some reason path to the auto save folder is not (or is no more) correct and Robotator is not able to find your received pictures. If you're using MSSTV, the 'Auto history' checkbox must be checked.*

- Solution #2: Have you changed Robotator file settings by chance or intentionally? Have you changed received pictures file format in your SSTV or WeFax application? **Compare file extensions with Robotator Settings: file format must match image format in your reception software and in the web page source.**

- Problem: No Internet connection is detected…

- Solution: *In order to monitor an Internet connection, Robotator relies on the WinInet API. These functions are embedded into the wininet.dll, a library that comes with your OS. So, If no internet connection is available either you have no internet access or rather, you have a router configuration problem. Please* ***check your ethernet cables or WiFi signal and your gateway/router WAN Status***. In addition, *you must* **check if gateway/router IP address has been entered in your computer network device configuration.**

- Problem: **Error. An Exception has been raised: "Control channel unexpectedly closed (Err 421)" This occurred after days (or years) of 'good job'...**

- Solution: *This usually occurs after your IP address has been blocked, blacklisted, or someway filtered on the remote server by a System Administrator.* **If your connection relies on dynamic IP addresses do not worry and restart your modem/router**, *otherwise you'll be forced to contact your* ***Web*** *service provider, asking reasons for the ban, also asking for a possible IP unblocking.*

- Problem: **I have deleted manually one or more images from my website and now Robotator is throwing transfer errors, timeouts, and does not upload pictures anymore.**

- Solution: *This will surely happen if you break the* ***file number sequence*** *already hosted on your web server. Just suppose you have built your website to show the world (for example) 10 pics. Files uploaded to Web directory will be numbered in ascending order, from 1 to 10 (image1.jpg, image2.jpg, image3.jpg....). If one or more of these files are missing, sequence will be broken and Robotator stops working properly. The solution is simple: Delete* ***all*** *files on server,* **or just create empty files with the same filename of deleted pictures.** *If you have deleted image2.jpg for example, create an empty file named "image2.jpg" and so on. Robotator will work fine again, and will not give out errors anymore.*

- Problem: **All files transferred to the Web server are empty (0 bytes)**

- Solution: Probably a firewall or router issue. **ALL** FTP sessions always require **two** TCP connections in order to transfer data. Server ports are usually port 21 (command) and port 20 (data). On port 21 a server gets a **request from the client** to receive data to a certain port. Then **the server replies and tries to connect** to the client **from port 20** in order to initiate a data transfer. **This will happen after a connection is established**. Sadly, a connection attempt to firewalled clients will fail after a PORT command, as the firewall on the client side filters all packets coming from the server. This happens because the PORT command issued by the client is simply a connection request, but **the data connection is originated from the outside**. (server side). To get rid of this kind of problems the client needs to send the server a PASV command. This way **the server will tell the client** which random port is accepting connections for data transfer, while **the client will start the connection** to the server. To keep it short… **enable The PASV (Passive) Mode!**

- Problem: **Pictures exist on my remote web directory but no image displayed on my Website.**

- Solution: Have you modified your web page? Have you changed Robotator Prefix? Check your settings: **image Prefix and file format must match file names and file format in the web page source.**

- Problem: **I have enabled status messages but no status variables are present in the 'status.js' file. Preference for the 'Add On Air/Off Air status messages' checkbox cannot be stored.**

- Solution: Path to an OFF Air image is missing. Check off the **'Add On-Air/Off Air status messages'** box, then **click the lowest file browser button and select an OFF Air image from your hard disk.**

- Problem: **Errors when quitting program, the Off Air image cannot be uploaded to my server, but status messages on website are displaying correct.**

- Solution: Invalid path? Maybe your OFF Air image has been moved elsewhere or deleted; your image may be corrupted; **check** OFF Air image **path and file.**

⚠ General Warnings ⚠

SSTV is NOT a KID GAME, *DO NOT let children mess with transceivers, power supply units and power amplifiers unless strictly supervised. Operating any transmitter outside of the CB service (on HAM bands) requires YOU TO GET LICENSED!*

If you are not, please keep your activity confined on frequencies around 27MHz (11 meters) only!

SSTV is intended for skilled Hams, CB enthusiasts and broadly speaking, for people aware of what they are doing. Always remember that working with high voltages and very high RF power outputs on aerials, capacitors, final stages/linear amplifiers may be highly dangerous ***and even kill*** *you or others. I cannot be held liable for any accidents due to lack of technical expertise, and likewise, for anyone's illegal activities such as radio frequencies abuse or any other band plan violations. You are using* ***your equipment****, my software and this information entirely at your own risk.*

Conclusions

In the beginning, I had developed SSTV Robotator for myself only. Unfortunately, there's a serious lack of software for 11-meter enthusiasts, so I'm releasing this project 'in the wild', willing to be helpful to licensed Hams, as well as to 11 meter DXers worldwide. I wish they could respect each other, bringing friendship through the airwaves, all together, throughout the entire world. I hope you will have fun.

73 and GD DX de

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