

# 9XR Pro: Using the Eepskye Program

Introduction .....	1
Basic Concepts .....	1
Setting up the Eepskye Program.....	3
General Description of Eepskye .....	5
Flashing the Firmware with Eepskye.....	9
Creating, Editing and Importing Models with Eepskye.....	10
Simulating a Model .....	14
Splash Screen.....	15
Further Information .....	17

## Introduction

**Eepskye** is a computer program designed to support the **Ersky9x** firmware used in the **Turnigy 9XR Pro** transmitter. This software will allow you to backup, edit and share model definitions and adjust transmitter settings. Eepskye can also simulate how the outputs of the servo channels will respond to various control inputs and programmed mixes.

Eepskye9x can make setting up a new model easier and quicker by allowing you to use the keyboard, mouse and larger screen of a PC. It can allow you to store as many different models as you want on the computer and download them to the transmitter when needed. And Eepskye offers an easy way of loading new firmware onto the radio.

At present, Eepskye runs on Windows XP, 7 or 8 and Macintosh. Work is under way to create a version for Linux.

There are other open source programs that perform similar functions. To avoid incompatibilities, make sure you use **Eepskye** to manage the Ersky9x firmware in your 9XR Pro transmitter.

## Basic Concepts

### Memory

The purpose of Eepskye is to enable you to use a computer to work with and manage the contents of the memory of your Turnigy 9XR Pro transmitter. There are three kinds of memory in the radio: Flash, EEPROM and SD card.

#### *Flash Memory*

Flash memory is where the radio's firmware or "operating system" resides. "Flashing the radio" means replacing the firmware, usually to upgrade to a newer version. Flashing requires a special procedure, not merely copying the firmware file. The Ersky9x firmware used in the 9XR Pro includes a "boot loader" to enable the transmitter to flash its own firmware (for details see the manual *9XR: Communicating with a Computer*). The Eepskye program can also be used to flashed firmware, as explained later in this manual.

## EEPROM

The EEPROM (Electrically Erasable Programmable Read-Only Memory) stores general radio settings and the individual model memories. EEPROM can be read by the Eepskye program, the contents can be edited or stored on the computer, and files on the computer can be copied to the transmitter.

## Micro-SD Card

The 9XR Pro includes a Micro-SD card (the kind used in many smartphones) that can store firmware files and various other information such as voice files. In addition, Ersky9x can back up individual models to the card and restore them to the transmitter, which the Eepskye program can access and edit the resulting files. For details see the manuals *9XR: Communicating with a Computer* and *9XR: Ersky9x Explained*.

## Connecting to the Computer

The boot loader portion of the Ersky9x firmware used in the 9XR Pro allows the transmitter to connect to the computer via a USB cable. The required cable has a mini connector on one end and a full-size connector on the other (see picture below to identify the required mini connector). Note that some USB cables of this type support charging only and do not allow communication.

The mini-USB socket is located under the rubber flap on the bottom of the transmitter, next to the Micro-SD card slot and the audio jack, as shown below.



To set up a USB connection between the transmitter and a PC, start with the transmitter turned OFF. Hold both horizontal trim switches (Aileron and Rudder) TOWARDS THE CENTER and turn ON the transmitter. You will see “Boot Loader Ready” on the transmitter screen. From this point on, procedures are different for PCs and Macintosh computers.

## Windows PC

Plug the USB cable into the transmitter and the computer. Press the connector firmly into the transmitter connector and make sure it is fully seated. The computer should recognize the USB connection and produce the “successful connection” sound. You will now see “Connecting” on the screen, confirming that the USB link is working.

On the computer you will see two new drives: ERSKY\_9X is the transmitter’s EEPROM, while the other drive represents the Micro-SD card and will be named accordingly. Drive letters will depend on your computer’s configuration. Access to the drives should be almost immediate.

To disconnect the transmitter from a Windows computer, first use the command “Safely Remove Hardware and Eject Media”. Then turn OFF the transmitter and unplug the cable.

#### *Macintosh*

Using a Macintosh computer, loading the SD card via a USB connection can take over five minutes. Consequently, it is recommended that Macintosh users access the contents of the SD card directly by removing the card from the transmitter and inserting it into the computer (using a suitable adapter or card reader).

To connect a Mac with the transmitter via USB, start with the transmitter turned OFF. Hold both horizontal trim switches (Aileron and Rudder) TOWARDS THE CENTER and turn ON the transmitter. You will see “Boot Loader Ready” on the transmitter screen. At this point, press the TRN switch once to turn off access to the SD card; “SD card Off” will flash repeatedly on screen.

The computer can now access the EEPROM in the transmitter (but not the SD card). This is what is required to run the Eepskye program, which does not use the SD card.

## Setting up the Eepskye Program

The Eepskye program comes in a file called **eePeInstall.exe** that includes both the eepe.exe and eepskye.exe files. The eepe.exe file is used with 9x and 9XR transmitters running ER9x firmware. The 9XR Pro runs **Ersky9x** firmware, so you must use **eepskye.exe**, as explained below.

## Installing Eepskye

To download the program, go to: <https://code.google.com/p/eepe/>

#### *Windows PC*

Select **Download Windows Installer** and save **eePeInstall.exe** to the desktop or another location where it can easily be found. Double click **eePeInstall.exe**. This will install the program in a folder called ‘**eepe**’ under ‘Program Files’ or ‘Program Files (x86)’ on the computer. The folder will include both eepe.exe and **eepskye.exe**, the one we need for the 9XR Pro.

To make Eepskye readily accessible, go to the **eepe** folder and find the file **eepskye.exe**. Right click on it and select ‘Send to’. Choose ‘Desktop (create shortcut)’ and click on it. You now have a shortcut to start the **Eepskye** program from the desktop.

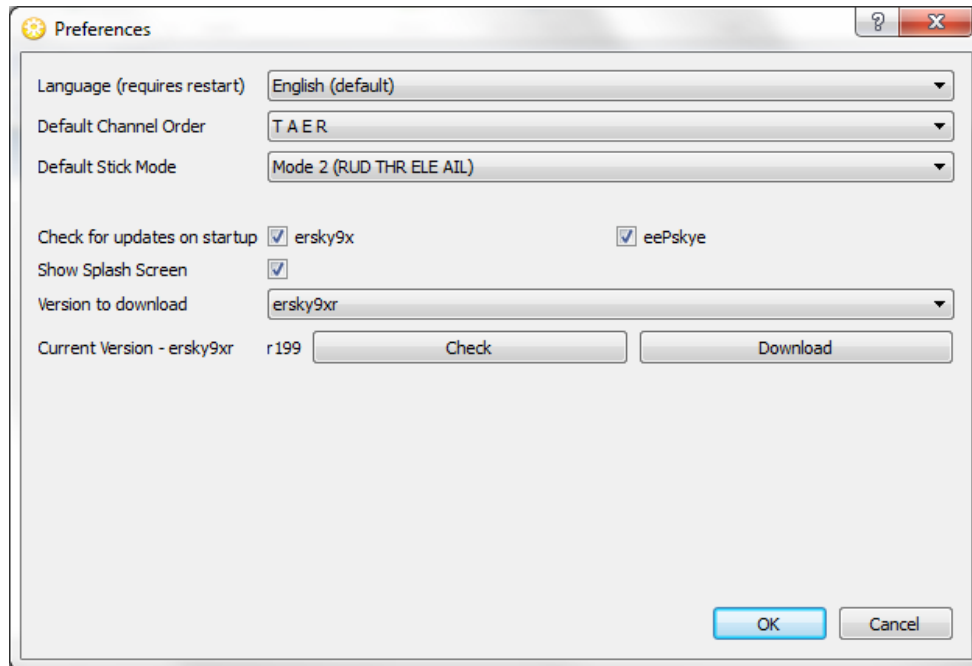
#### *Macintosh*

Download the file **EepskyeMac.zip**. It will automatically unzip itself and become Eepskye.dmg. Double click on that file and a folder named **Eepskye** will appear. Drag the icon to your Applications folder to install it. Drag the new icon to the dock to create a shortcut if you wish. Eject the disk image and the Eepskye.dmg file.

## Setting Eepskye Preferences

Double click on the desktop shortcut to open **Eepskye**. A window will open.

Go to File>Preferences and open the dialog window. You will see:



If you select a language other than English, you will need to restart eepskye.

Enter Channel Order and Stick Mode, using the same settings established in the Radio Setup screen of the transmitter (for details see the manual *9XR: First Steps with Ersky9x*).

Select both of the “Check for updates” boxes (recommended).

“Show splash screen” determines whether the welcome screen is displayed on the transmitter at startup (optional).

In “Version to download” select **ersky9xr**.

Click OK.

## Testing Eepskye

Go to **Burn, Configuration** and verify that ‘Use SAM-BA’ is NOT checked.<sup>1</sup> Close the window.

Now connect the 9XR Pro to the computer using the USB cable. As explained previously, this requires turning on the transmitter in boot loader mode, i.e., with both horizontal trim levers towards the centre. You should see ‘Boot Loader Ready’ on the transmitter screen. Then plug in the USB cable and ‘BUSY’ should appear.

Under the **Burn** menu within eepskye, press **Read Memory From Tx**. You should see “Data Transfer” and a progress bar, followed by “Operation successful.” The process should take just a few seconds. This copies the EEPROM information in the transmitter to **eepskye** on the computer.

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<sup>1</sup> SAM-BA is a program available from the manufacturer of the Atmel chip used on the main 9XR Pro circuit board. Originally, SAM-BA was required to install firmware and connect the transmitter to the computer, but current firmware includes a boot loader that provides these capabilities. SAM-BA is now required only to correct problems with the firmware installation (see the manual *Using SAM-BA to “Unbrick” the 9XR Pro*).

A list of model memory slots, including any models already created, will appear in the **Eepskye** main screen. The file should be saved to your computer with a descriptive name (such as 9XR Pro BU 001) in a location where it will be available as a backup (such as '9XR BU Files'). The program will add the extension '.bin.'

This test verifies that the **Eepskye** program is working and communicating properly with the computer.

## Updating Eepskye and Ersky9xr

From time to time, updates are issued for the Eepskye program. Generally, these add new capabilities or fix minor issues and are optional. Nevertheless, it is recommended that you keep the firmware reasonably up to date.

There are two methods for doing the update:

The easy way is to check the relevant boxes in preferences, as described above. For either PC or Macintosh, this automatically downloads the latest versions of both program and firmware files and prompts you to install the firmware.

Alternatively, to upgrade Eepskye manually go to the 9XR Pro section of the *Open RC Forums* web pages and download the latest Eepskye file in zip form.

### *Windows PC*

Unzip the Eepskye file to your **eepe** folder, replacing the existing eepskye.exe file (if you want to keep the old file, first rename it). The new file will run when you start the program using the existing icon.

### *Macintosh*

The new **EepskyeMac.zip** file will automatically unzip itself and become Eepskye.dmg. Double click on it. A folder named Eepskye containing the Eepskye software will appear. Drag the icon to your Applications folder and "replace" the existing software. The existing shortcut in the toolbar should still work.

To install new Ersky9xr firmware manually, follow the instructions in "Flashing the Firmware with Eepskye" (see page 9).

## General Description of Eepskye

When you launch Eepskye you will see a row of drop-down menus along the top line: File, Edit, Burn, Telemetry, Window, and Help. These give access to all the commands required to use Eepskye. In this section we will review the available commands as they appear in the menus.

Note that many of the most-used commands are quickly available through the icons that appear below the drop-down menus. Some are also accessibly in certain contexts by right-clicking.

## File Drop-Down Menu

### *File>New*

Opens a window within Eepskye showing a generic binary file called 'document1.bin'. This is an empty file ready to be filled in and uploaded to the transmitter. It will contain both individual model definitions and the general radio settings.

General Settings in the top line of the document represents the radio setup data. Double click on it and you will see a form corresponding to the settings on pages 1/11 and 2/11 of Radio Setup on the transmitter (press long left from the Home screens).

Up to 32 model definitions can be stored in the numbered memory slots that make up the rest of the document.

Note that if you write such a .bin file to the transmitter it will replace all of the current settings stored in the EEPROM.

### *File>Open*

Enables you to find and open EEPROM files on your computer. These can be previously made backups from the transmitter, model setups created on the computer, files downloaded from the internet, etc.

Files from previous back-ups will include your General Settings (at the top) as they were at that time. If you have changed the Radio Setup in the meantime, the General Settings will be out of date.

To add a model from elsewhere to the radio, the safest way is to start by reading the memory from the radio (Burn>Read memory from Tx); this will include the radio's current general settings, as well as the existing models. Then drag the file containing the new model to an available slot. Finally, upload the whole file back into the radio (Burn>Write memory to Tx). This will overwrite everything in the EEPROM but it will conserve your existing general settings and model definitions and add the new model.

Files can also be opened by dragging them onto the main window of Eepskye. Several files can be open simultaneously, allowing you to copy/drag models or settings between files.

Note that trying to open a firmware file with Eepskye will generate an error message saying that the file is invalid, the file size is wrong or something similar. This doesn't really mean that the firmware is invalid, but simply that it is not an EEPROM settings file.

### *File>Save or File>SaveAs*

These commands save the information in the currently open window to your computer as a binary file (with the extension .bin). 'SaveAs' allows you to rename the file.

### *File>Load Model Settings, File>Save Model Settings*

This pair of commands enables you to save and retrieve the settings for an individual model in the form of an .eepm file. By contrast, regular EEPROM files (.bin) consist of the entire contents of the memory, including all 32 memory slots as well as the general radio settings. One advantage of the .eepm approach to saving model information is that it enables an individual model file to be transferred to a different radio without affecting the general radio settings.

To create a .eepm file, select a model within an open EEPROM file and press Save Model Settings. You will have a choice as to the location on the computer and the file name.

To open a model settings file, select an available slot in an open EEPROM file. Use Load Model Settings to find the appropriate .eepm file and load it into the slot. The modified EEPROM file can then be edited, simulated, saved to the computer, uploaded to the radio, etc.

A file created on the SD card by the Ersky9x Backup command in the Model Select actions menu is in the .eepm format and can therefore be accessed and opened by the Eepskye program using the File>Load Model Settings command. It can be inserted into a blank slot in an EEPROM file and edited in the normal way.

Note that an .eepm file can only be opened in Eepskye by using the File>Load Model Settings command to load it into an EEPROM file. The “open” command does not work in this case.

#### *File>Simulate*

Opens the simulator screen to show how, for the selected model in an EEPROM file, the output channels respond to stick or pot movements and switch positions. See the “Simulating a Model” section later in this manual.

#### *File>Print*

Enables printing of a copy of your model settings.

#### *File>Preferences.*

Allows setting of various parameters that apply to Eepskye as a whole:

*Language.* Select preferred language from: German, Spanish, Hebrew, French, Portuguese and Russian. Changing language requires a restart of the Eepskye program.

*Default Channel Order.* Select preferred order from the drop down list. The new order will be applied when creating a new EEPROM document.

*Default Stick Mode.* Select preferred order from the drop down list. All four modes are available. The mode will be applied when creating a new EEPROM document.

*Check for Updates on Startup.* If the boxes are checked, Eepskye will search at launch for updates for both Ersky9xr and Eepskye.

*Show Splash Screen.* Determines whether or not the welcome screen will be displayed when starting Eepskye.

*Version to Download.* Select preferred firmware from the drop down list. For the 9XR Pro choose Ersky9xr.

*Current Version.* Shows the firmware version installed on your radio and allows you to check for and download an update.

#### *File>Switch Layout Direction.*

Changes the order of the drop-down menus and the alignment of the menu commands.

#### *Exit*

Closes the program. Warns if files are unsaved.

## Edit Drop-Down Menu

*Edit>Cut, Edit>Copy, Edit>Paste.*

Enable performing these actions on an open document.

*Edit>Eeprom Info.*

Summary of the file attributes for the EEPROM file selected.

## Burn Drop-Down Menu.

*Burn>Write Memory to TX*

Sends to the radio the currently open and selected document. (If you have more than one window open, make sure to click on the one you want to transfer.)

*Burn>Read Memory from TX*

Reads the EEPROM contents from the radio, and opens them in a new document in Eepskye. The document is open for editing, but is not saved to disk automatically.

*Burn>Flash Firmware to Tx*

Flashes the radio's firmware from the selected file. Once the file is selected, you have the option to replace the default splash screen or to use the default image selected in preferences. See "Flashing the Firmware with Eepskye" later in this manual.

*Burn>Read Firmware from Tx*

Reads the firmware currently on the radio and writes it to a file on your computer as a backup. Click the entry, choose a location and filename, and save.

*Burn>Write EEPROM memory from File*

Enables a file on the computer to be selected and transferred as-is to the radio. This is the preferred way to restore a backup, as no processing is done by Eepskye..

*Burn>Read EEPROM memory to File*

Reads the EEPROM contents from the radio directly into a file. This is the preferred way to back up your radio's settings as the information will be saved "as is" without processing by Eepskye. Click the entry, choose a location and filename, and save.

*Burn>Configure*

If you are using SAM-BA to access the transmitter, this is where you set the path, the USB driver and COM Port. Since SAM-BA is not required if Boot Loader is used for access, make sure the "Use SAM-BA" box is NOT checked.

*Burn>review Output*

Opens a window where the results of a Burn action can be reviewed. Applies only when SAM-BA is used.

## Telemetry Drop-Down Menu

[This section of Eepskye is under development.]



One of the Telemetry screens is used to simulate the Winged Shadow How Hi device. If the serial output from the computer is connected to the serial port on an FrSky D-series receiver, the operation of the device can be tested by pressing the Start button.

The other screen is used to read and set the alarms on a DJT or XJT transmitter module. The serial port on the computer is connected to the 4-pin connection on the module. With the module powered up, press the Start button. Press the “Read Alarms” button to view all the settings and change them to what is required. Then press the “Set Alarms” button.

One or two received telemetry items can also be displayed. It is planned to increase the number of items in the future.

These features work only with the FrSky hub communication protocol; both the DJT and the XJT have the hub connector, which can be used to set the alarms.

## Window Drop-Down Menu

*Window>Close, Window>Close All, Window>Tile, Window>Cascade, etc...*

These standard Windows commands allow you to manage the windows currently open in the Eepskye program.

## Help Drop-Down Menu

*Help>Ersky9xr Users Guide*

Opens the current manuals for Ersky9xr and Eepskye. [TO BE CONFIRMED]

*Help>Customise Splash Screen*

Opens a dialog box which allows a new image to be loaded as the welcome screen for the transmitter. See “Customizing the Splash Screen” later in this manual.

*Help>About*

Software name, author and version.

*Help>Contributors*

A list of the many contributors to the project.

*Help> Check for updates*

Click here to get the latest update according to your choices in File>Preferences.

## Flashing the Firmware with Eepskye

Flashing is the process of replacing the firmware or operating system of the transmitter.

Before starting, you may want to use *Burn>Read Firmware from Tx* to save a backup copy of the current firmware.

You may also want to make a backup of the current general settings and models stored in the EEPROM. Use *Burn>Read EEPROM memory to file* for this purpose. Note that it is not strictly necessary to make such a backup with the 9XR Pro, as the firmware and the settings are stored in separate portions of memory, but it is good practice to have a safety net in the unlikely event that something goes wrong.

To flash new firmware to the transmitter, first go to **File>Preferences** and press **download** to get the latest version of the Ersky9xr firmware. This assumes you have already set appropriate preferences for the 9XR Pro, as discussed above.

Now power up the transmitter in boot loader mode by holding both horizontal trim switches (Aileron and Rudder) TOWARDS THE CENTER and turning ON. You will see “Boot Loader Ready” on the screen.

Plug the mini-USB cable into the transmitter and the computer. You should now see “BUSY” on the transmitter screen, indicating that the connection to the computer is established.

You can now upload the new firmware using **Burn>Flash Firmware to Tx**. This presents you with a file select dialog allowing you to choose the firmware version to flash. Click OK and the flashing begins. You should very quickly see “Operation Complete.” Click OK.

You have now flashed the new firmware into your radio. Turn your radio off. Close Eepskye and disconnect the USB cable.

Note that there are other ways to flash firmware to the transmitter. See the manual *9XR Pro: Communicating with a Computer* for details.

## Creating, Editing and Importing Models with Eepskye

To understand the process of creating and working with models using Eepskye, keep in mind that all of the general radio settings as well as the individual model settings are stored together in the transmitter’s EEPROM. Hence, if you create a new file in Eepskye and copy it to the transmitter, it will replace everything that is there. Think carefully before using the command ‘Write EEPROM memory from file’! Do a backup before you change things!

In creating new models or editing existing ones, when you work in a different file you will usually need to transfer the resulting model to a backup of the transmitter’s current EEPROM configuration. This will ensure that you preserve the other models and the radio settings (such as stick configuration).

### Creating a New Model

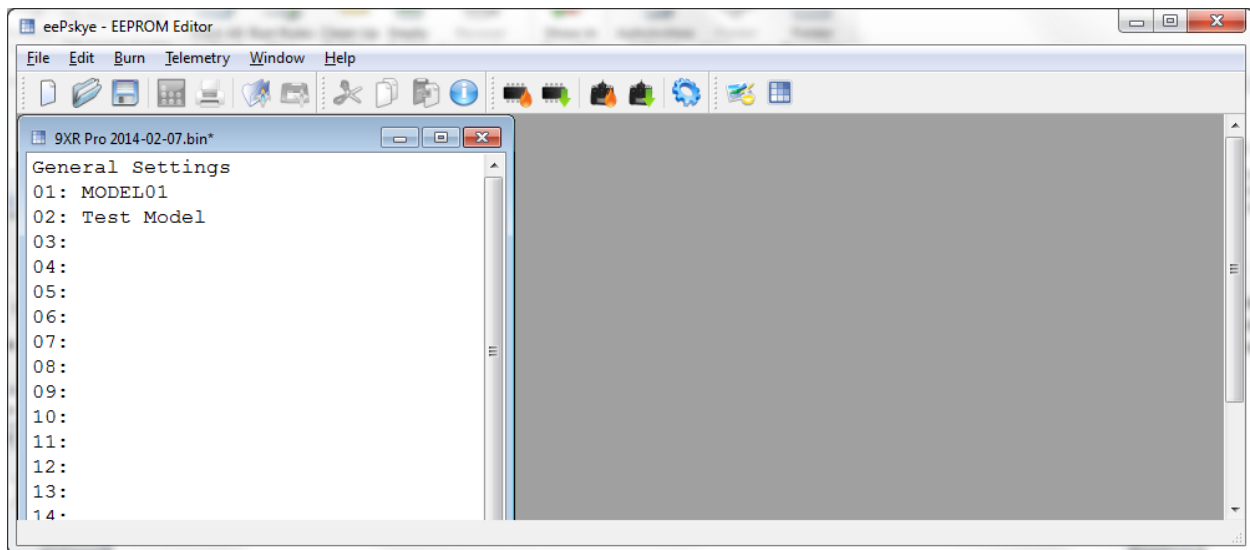
Launch eepskye. Go to **File>Open**.

Find and open the file you downloaded from the radio when you backed up the EEPROM. (If you didn’t save it, just make a new one.)

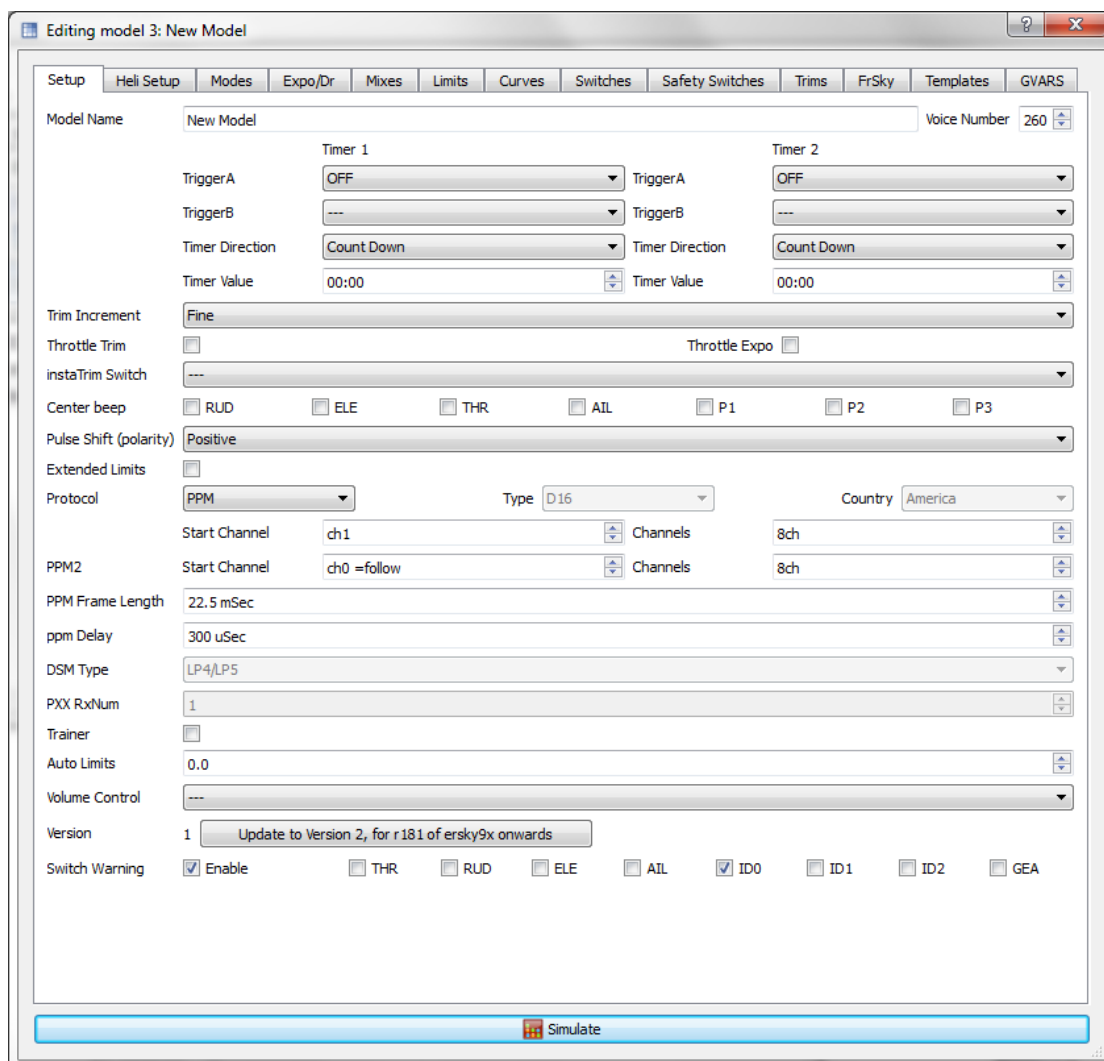
Use **File>SaveAs** to rename the file so you preserve the back up. For example, you could use a name that includes today’s date such as 9XR Pro 2014-02-07. Save to the folder you have chosen to use for this purpose.

At this point you should have on-screen a window listing any existing models and the unused slots.

Here we see the generic MODEL 1 that always appears, plus a previous test model we created while experimenting with the transmitter:



To create a new model from scratch in Eepsky, double click on a blank model slot in a document. The model settings edit screen will appear:



Along the top is a row of 13 tabs, one for each page of the **model setup**. If you turn on your radio and long press the **right** navigation key once, select a model and then press once more **right**, these are essentially the same 13 pages you will see on your radio.

Using these pages on your computer is just like programming directly on the transmitter, except that you have the advantage of a keyboard, mouse and big screen. You will find that it's much easier to do some things, such as setting expo and dual rate, or adjusting curves, this way.

To understand them and to know how to fill in all the fields please refer to the manuals *First Steps with Ersky9x* and *Ersky9x Explained*. You can create a model here on your computer and then upload it to the transmitter, just as you can create a model on your transmitter and then download it to here.

Note that the Templates in Eepskye work just like those in Ersky9x except that here you double click on the required template. If you choose something like V-Tail or Elevon/Delta you will get a warning that you are about overwrite existing mixes.

When you have created the model, you can test it out by clicking on **Simulate** at the bottom of the editing screen. See "Simulating a Model" later in this manual.

Finally, save the file. Now decide if you want to upload the file to the transmitter, thereby overwriting the models and general settings in the EEPROM. Let's suppose you want to work on

## Editing a Model

If instead of double clicking on a blank model slot you choose an existing model, then you will see the various pages of the editing screen populated with the parameters that describe the model – the mixes, expo and D/R settings, limits, curves, etc.

Suppose we have already created a basic model created by using the Simple Four-Channel template. The T-Cut Template has also been installed (giving an extra mix on Channel 1).

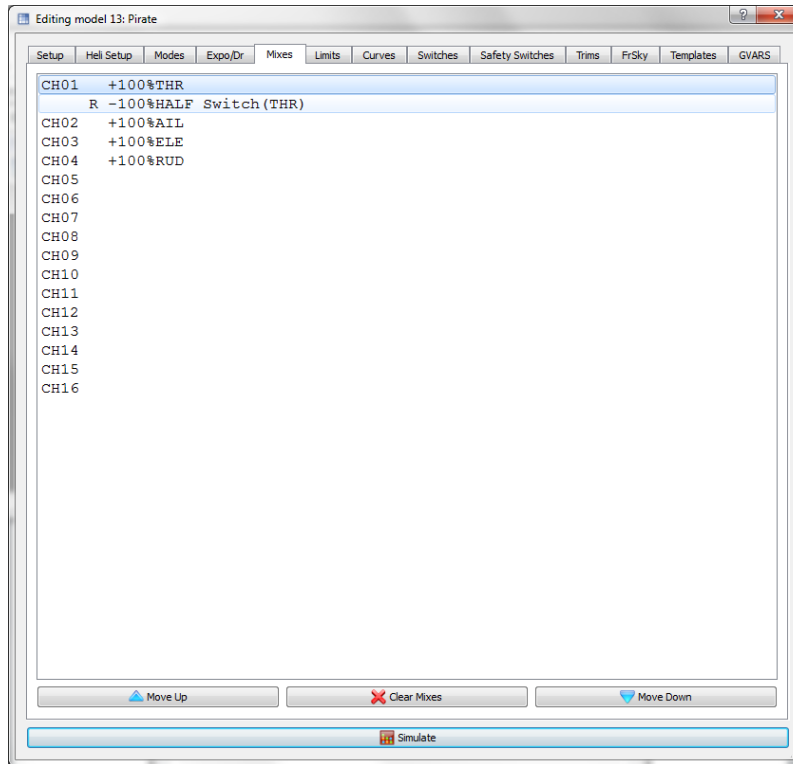
From this simple starting point we can proceed to edit and embellish with additional mixes to do jobs such as provide a retract gear switch on Channel 5, or a mix from aileron (Channel 2) to rudder (Channel 4) to help coordinate the turns.

Other aspects of the model can also be edited, such as the expo and dual rate settings, servo travel limits and reversing, timer settings, etc. For an introduction to the possibilities of programming, see the manual *First Steps with Ersky9x*. For more detail, see *Ersky9x Explained*.

When editing is finished and the results have been tested in the Simulator (click the bar at the bottom of the page), it's time to save the file (File>Save or File>SaveAs). Then the file can be uploaded to the transmitter (Burn>Write EEPROM memory from file).

Note that everything we can do to edit the model in Eepskye can also be done in the transmitter. The advantage of doing it here is convenience and the ability to save the file to the computer.

Below is an example of what you might see if you went to the Mixer screen for a model called Pirate in the Model 13 memory slot.



## Importing a Model

You can import a model by bringing in an entire EEPROM file from another 9XR Pro and then dragging the desired model over to an EEPROM file downloaded from your own transmitter. What you should NOT do is to load a file from another transmitter into your own 9XR Pro, as doing so would bring in all the other models and general settings and wipe out all of your own.

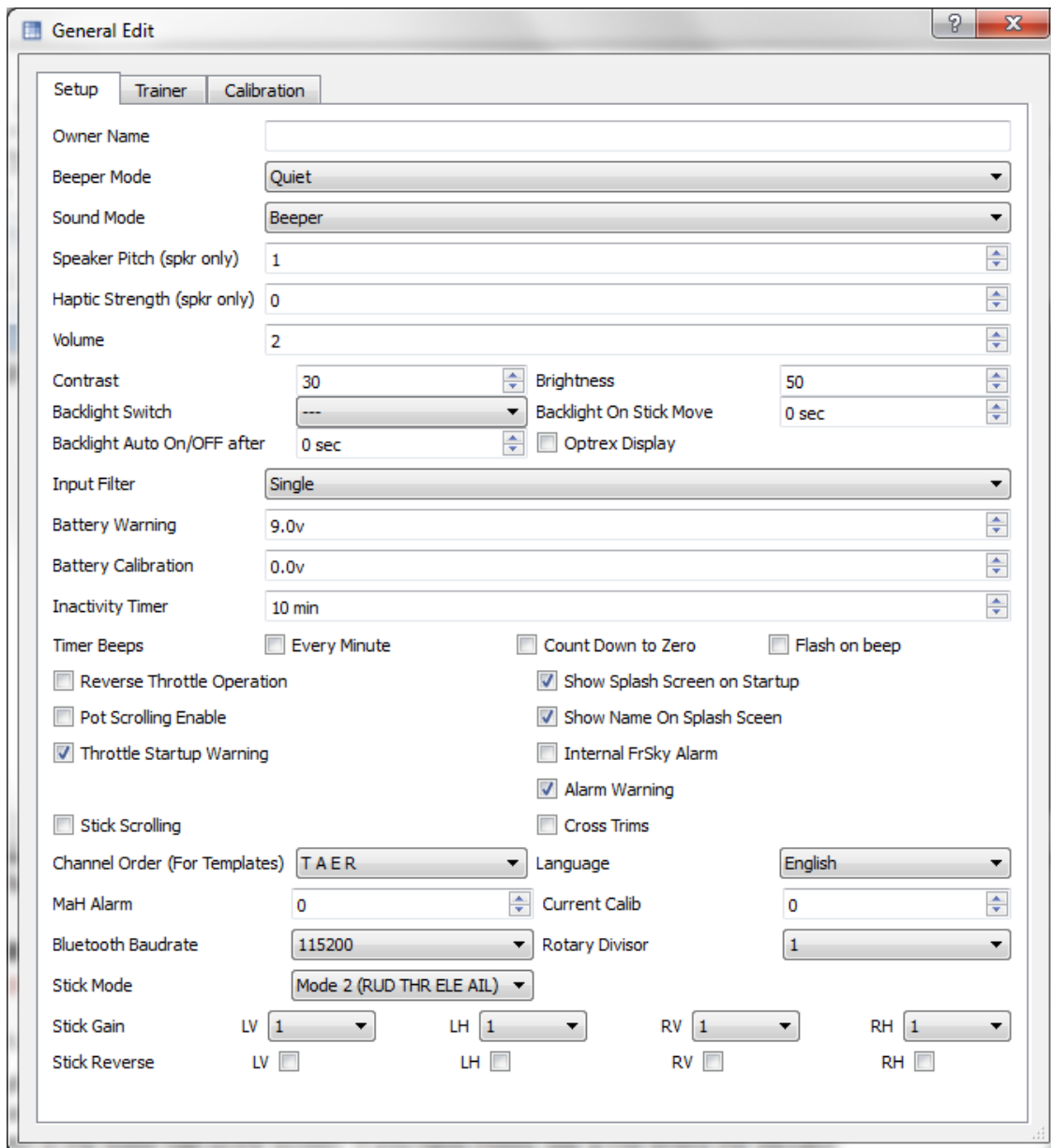
A more convenient way to exchange model files with someone else who has a 9XR Pro is to use an .eepm file. One way is to use the Model Select>Backup command to save the model to the SD card. Another is to use Eepskye to save the EEPROM information of the first transmitter to file. Then File>Save Model Settings is used to extract the desired model to an .eepm file.

The command File>Load Model Settings within Eepskye is then used to insert the .eepm file into either a blank EEPROM file. There you can edit and modify it and then test out your programming with the simulator.

The file can then be copied and pasted or just dragged and dropped into an EEPROM file downloaded from your transmitter. The amended file can then be uploaded back to the transmitter with the imported model included.

## Adjusting the General Settings

The **General Settings** in Eepskye correspond to the **Radio Setup** pages in the transmitter (from the home page, long press the **left** navigation key once) and apply to all models. To edit them, in the top line of the document window, double click on “General Settings”. You will see a page that presents essentially the same choices as the Radio Setup pages on the transmitter, though organized differently:



The tabs along the top of the page correspond to the Radio Setup pages in your transmitter programming. You can edit the General Settings for the Setup, Trainer, and Calibration pages here, upload these settings to the radio and save them as a backup. Again, to understand the various fields please refer to the manuals *First Steps with Ersky9x* and *Ersky9x Explained*.

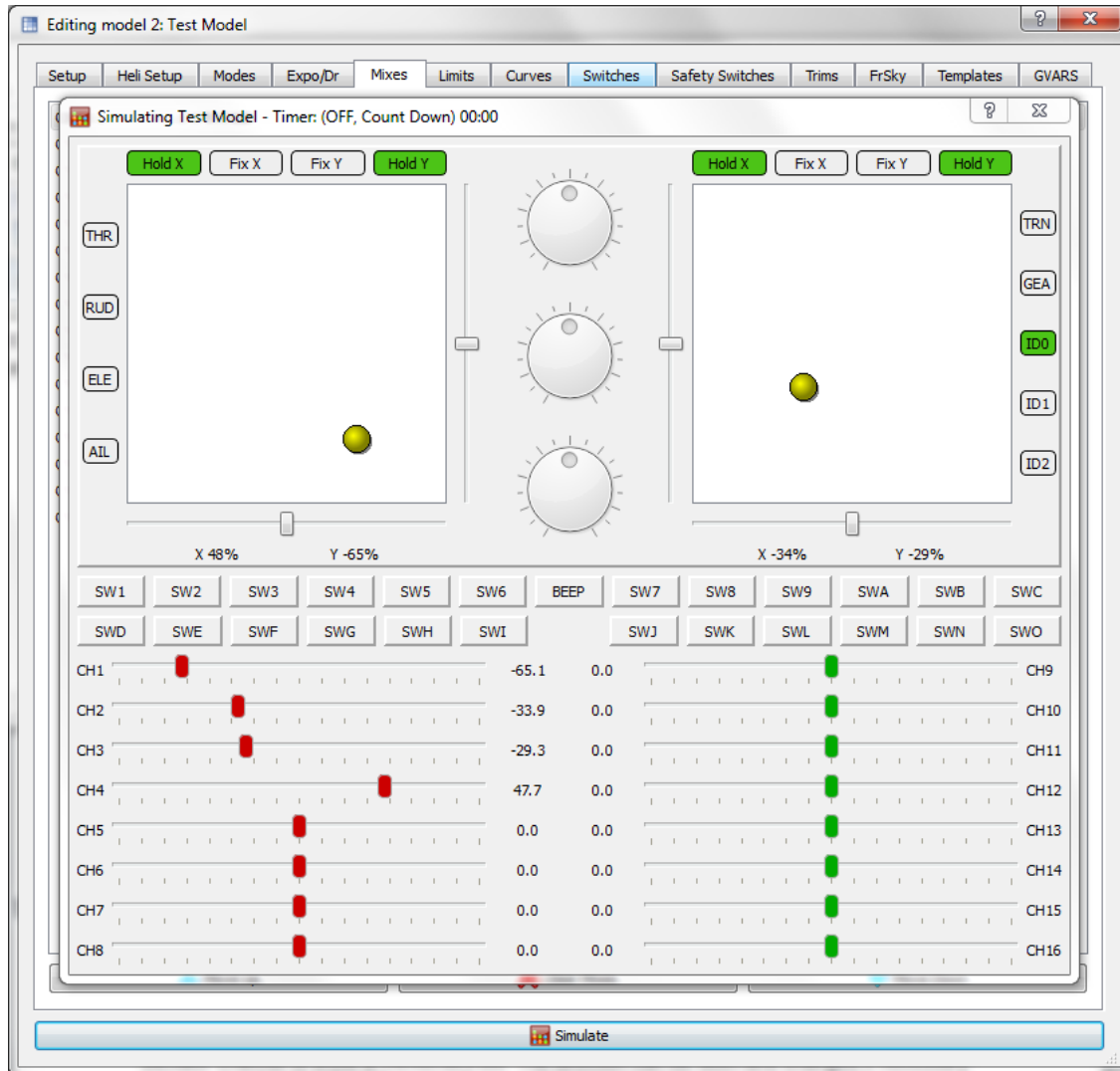
## Simulating a Model

Highlight a model in a document.bin file. Go to File>Simulate and a click on the command, or just click on the Simulate bar at the bottom of the edit screen.

The graphical representation of the radio appears. The switches can be turned on or off. A green background denotes the switch in the ON position. The sticks can be moved and the direction of travel seen in the lower half of the screen. The effect of mixes can be seen when the controls

are moved. The direction and extent of the output can be seen and changed if necessary before uploading the file to the radio.

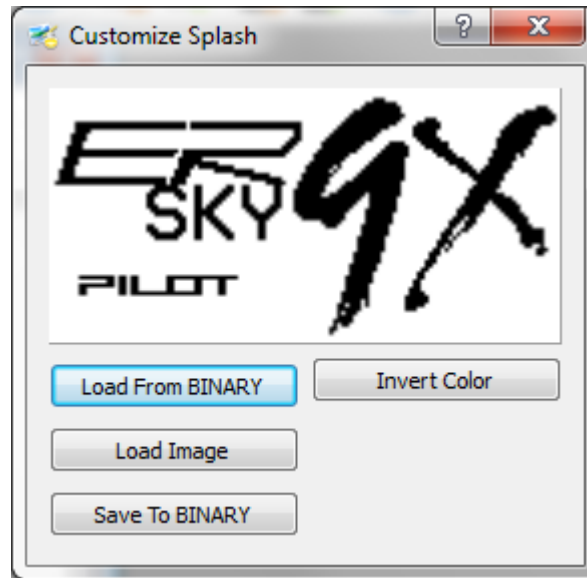
Here's what the Simulator looks like for a four channel model. In this example, the sticks have been set to hold so that the results of moving them from center can be seen:



## Splash Screen

The splash screen image resides within the firmware and is displayed at start-up. To change the splash screen you must insert a different image into the firmware.

To see the existing splash image within the firmware file, go to the Help>Customize Splash Screen within Eepskye. Click on "Load From Binary" and select the firmware file you want to modify (ersky9xr\_rom or similar). You will see something like:



To create a new or modified splash screen requires the use of an application such as Paint. The image must meet strictly defined requirements: the file can be in binary format (.bin) or bitmap format (.bmp, .pbm, etc.); it can be inverted if necessary but must be monochrome black and white, 2 bit, 128 x 64 pixels. The pilot name must be 8 pixels high and can be up to 60 pixels wide.

Here are some examples of possible images:



To insert a new splash image into the firmware file, go to the Help>Customize Splash Screen within Eepskye. Click on the “Load Image” button. Fill in the file name or browse to the new image and click Open. This will display the image inside the dialog box. If you are satisfied with the image, click on “Save to BINARY”, making sure you select the correct firmware file for modification. This inserts the image into the firmware instead of the existing one and saves the firmware file back to the folder in which it was stored.

The firmware file including the new or modified splash screen can now be flashed to the transmitter, as described above. Turn OFF the transmitter and restart it to see the new splash screen. To open the image already within the firmware, click on “Load from BINARY” and find the relevant firmware file (ersky9xr\_rom or similar). Open this file. An image will appear on the dialog box screen, such as:

You can also copy an image from one firmware file to another. Start by going to Help>Customize Splash Screen within Eepskye. Click on “Load from BINARY” and find the firmware file that is to provide the image. Open the file and you will see the image. The image may then be copied into another firmware file by clicking on “Save to BINARY” and selecting the target file. Press Save and you should see “Successfully Updated....” Close the dialogue and Eepskye.



## Further Information

For additional information to help you understand and make best use of your Turnigy 9XR Pro, see the other manuals in this series and/or go to one of the forums dedicated to this transmitter and the open source firmware it uses.

### *9XR Pro Manuals*

The following manuals are designed to help you get the most out of your Turnigy 9XR Pro. They are available at: <http://openrcforums.com/forum/viewforum.php?f=7>

1. 9XR Pro: Introduction to the Hardware
2. 9XR Pro: First Steps with Ersky9x
3. 9XR Pro: Ersky9x Explained
4. 9XR Pro: Communicating with a Computer
5. 9XR Pro: Using Voice with Ersky9x
6. 9XR Pro: Using the Eepskye Program
7. 9XR Pro: Glossary of Terms

### *Internet Forums*

Help is always just a few clicks away on the internet forums where experienced Ersky9x users volunteer their knowledge and experience. Many of these people have been developing the firmware for years without remuneration; all they ask is donations to fund further development.

Open RC Forums: <http://openrcforums.com/forum/index.php>

Ersky9x index page: <http://openrcforums.com/forum/>

9XR index page: <http://openrcforums.com/forum/viewforum.php?f=70>

#### NOTICE

Ersky9x and Eepskye are free open source software, independently developed. This manual is provided to help you understand and use them specifically for the Turnigy 9XR Pro transmitter, though much of the information also applies to the Sky replacement boards produced as an upgrade for the 9x transmitter.

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For more information go to: <http://openrcforums.com/forum/viewforum.php?f=7>

9XR Pro Using Eepskye Program 2014-03-26a