FlexRadio Systems®
Software Defined Radios

How To Guide

Profiles in SmartSDR

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Ed Gonzalez, KG5FBT

www.flexradio.com

Introduction

This document is intended as a how-to for users that have installed SmartSDR v1.6 or higher and have some familiarity with SmartSDR basics. For more in depth information please visit the links in the **For More Information** section at the end of this document.

Profiles provide a way of quickly restoring a group of settings that were previously saved. There are three types of profiles: Global, Transmit and Mic each providing a different set of SmartSDR settings. Each of these is covered in depth in this document.

Requirements

- SmartSDR v1.6 or higher

Changes from Previous Versions

There are several changes made to profiles that users should be aware of:

1. You can now delete Default profiles.
2. Transmit profiles have been split into Transmit and Mic profiles.
3. CW Settings are no longer stored in profiles.
4. Mode changes now load a "linked" Mic Profile (more in Mic Profiles section).
5. TX Antenna changes now load a "linked" Transmit Profile (more in Transmit Profiles section).
6. Transmit profiles now save power settings for all bands (more in Transmit Profiles section).

Restrictions

There are a few restrictions that apply to using Profiles with your radio. Please read these carefully to avoid confusion or problems while operating.

1. Profiles cannot be edited manually but must be saved from SmartSDR.
2. Default profiles cannot be over-written.

Profile Manager

The Profile Manager shown in Figure 1 gives you control over all the profiles currently stored on your radio. To open the Profile Manager, click Profiles in the top menu bar of SmartSDR and then select Profile Manager. Each component is numbered in Figure 1 and explained below.

1. **Profile Type Selection:** These three tabs (Global, Transmit, and Microphone) allow you to select which type of profile you will be changing.

2. **Profile Name Text Box:** Used to input the name of a profile you want to save and to display which profile you have selected from the profile list (4).

3. **Action Buttons:** Allow you to manipulate a selected profile.

   a. **Load**: loads the profile selected in the profile list (4). Does nothing if no profile is selected.

   b. **Save**: saves the profile specified by the profile name text box (2). If the name is the same as a profile in the profile list (4) that profile is overwritten.

   c. **Delete:** deletes the currently selected profile**.** You will be prompted to double check you want to delete the profile. Does nothing if no profile is selected.

4. **Profile List:** Shows you a list of all profiles of the type selected in (1) and allows you to select a profile for modification by the action buttons (3). Double clicking on a profile will also load the profile.
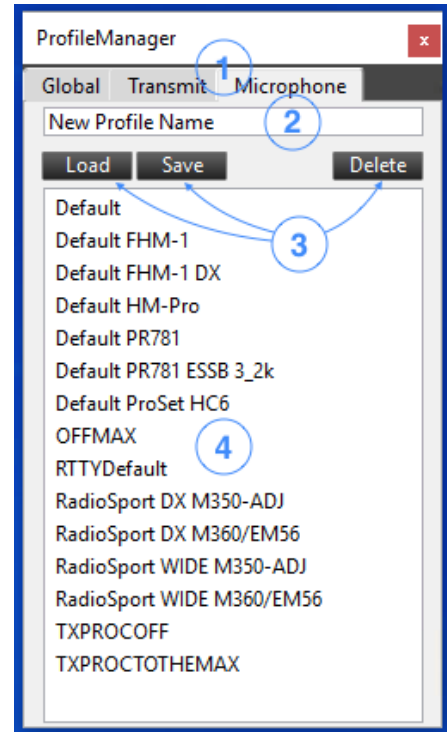

Figure 1: Profile Manager

Mic Profiles

Mic profiles save and load the settings listed below:

- TX Filter Low and High
- Mic Selection, Level, Boost, Bias, and ACC Enabled
- DEXP Enabled and Level
- PROC Enabled and Level
- SB Mon Enabled, Gain and Pan
- DAX Enabled
- VOX Enabled, Level and Delay
- Show Meter in RX
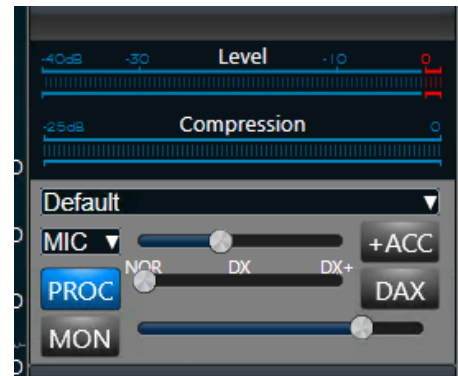- AM Carrier Level
- TX EQ and Levels

Figure 2

The Profile Manager allows you to load/save/delete your Mic profiles but SmartSDR also provides a shortcut for quickly loading a Mic profile. The shortcut is shown in Figure 2 immediately above the Mic Selection dropdown and the Mic level slider. Clicking this dropdown shows a list of all Mic profiles and allows you to quickly select a Mic profile. After a profile is loaded any modifications to any of the fields stored in Mic profiles will add an asterisk (*) in front of the profile name to indicate that the values of the profile have been changed and changes will be lost if a different profile is loaded. To save your changes to the Mic profile use the Profile Manager to save the profile under the same name and the asterisk disappears.

Mic profiles are also **linked** to a specific group of modes. This means that when the transmit slice changes mode, the Mic profile **linked** to that mode will be loaded. Modes are grouped into the following groups:

- USB/LSB
- DIGU/DIGL
- AM/SAM
- FM/DFM/NFM
- RTTY
- Waveform modes (e.g. FreeDV, D-STAR, etc)

To **link** a Mic profile to a group of modes, set the transmit slice to the mode you wish to link, then load or save a Mic profile while the transmit slice is in that mode. From then on, whenever the transmit slice is set to that mode the **linked** Mic profile will be loaded. For example:

1. Slice A – Mode is USB (**Make sure Slice A is the TX Slice**)
2. Load **Default FHM-1** Mic profile. (This Mic profile is now linked to the USB/LSB mode group)
3. Change Slice A to SAM (This loads the default **linked** profile **Default**)
4. Load **Default PR781** Mic profile. (This Mic profile is now linked to the AM/SAM mode group)
5. Change Slice A to LSB or USB. (This loads the **Default FHM-1** Mic profile)
6. Change Slice A to AM or SAM. (This loads the **Default PF781** Mic profile).

Transmit Profiles

Transmit profiles save and load the settings listed below. For convenience they are grouped into two categories: interlock and power.

Power (these settings are saved per-band):

- Hardware ALC Enabled
- Tune Level
- Power Level
- XVTR Tune Level
- XVTR Power Level

Interlock (these settings are **NOT** saved per-band):

- TX Delay
- PTT Timeout and Inhibit
- ACC TX Request Enable and Polarity
- RCA TX Request Enable and Polarity
- ACC TX Enable
- RCA TX1 Enable and Delay
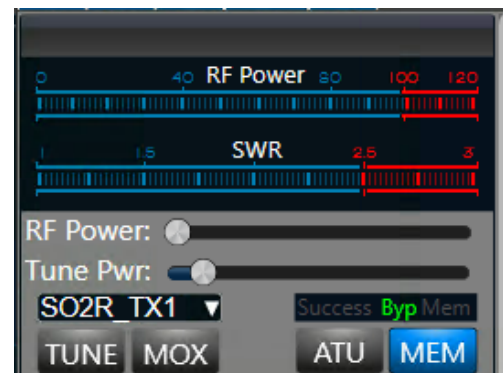- RCA TX2 Enable and Delay

Figure 3

- RCA TX3 Enable and Delay

NOTE: Power settings are saved for every band in a Transmit profile. To save the appropriate power settings set a slice as the TX Slice. Tune to every band you want to save a power setting for and change the setting. After this is done save the Transmit profile.

The Profile Manager allows you to load/save/delete your Transmit profiles but SmartSDR also provides a shortcut for quickly loading a Transmit profile. The shortcut is shown in Figure 3 immediately above the TUNE and MOX buttons. Clicking this dropdown shows a list of all Transmit profiles and allows you to quickly select a Transmit profile. After a profile is loaded any modifications to any of the fields stored in Transmit profiles will add an asterisk (*) in front of the profile name to indicate that the values of the profile have been changed and changes will be lost if a different profile is loaded. To save your changes to the Transmit profile use the Profile Manager to save the profile under the same name and the asterisk disappears.

Transmit profiles are also **linked** to a TX Antenna. This means that when the transmit slice changes TX Antenna, the Transmit profile **linked** to that antenna will be loaded.

To **link** a Transmit profile to a TX Antenna, set the transmit slice to the TX Antenna you wish to link. Then load or save a Transmit profile. From then on, whenever the transmit slice TX ANT is changed to the antenna you selected, the **linked** Transmit profile will be loaded. For example:

1. Slice A is the transmit slice. TX ANT is **ANT1**
2. Slice B is **NOT** the transmit slice. TX ANT is **ANT2**
3. Load **SO2R_TX1** Transmit profile. (This Transmit profile is now linked to ANT1)
4. Set Slice B as the transmit slice.
5. Load **SO2R_TX2** Transmit profile. (This Transmit profile is now linked to ANT2)
6. Set Slice A as the transmit slice. (This loads the **SO2R_TX1** Transmit profile)
7. Change Slice A TX ANT to **ANT2.** (This loads the **SO2R_TX2** Transmit profile)

Global Profiles

Global profiles save the state of all open slices and panadapters as well as the current Mic profile and the TX ANT to TX Profile linking. Changes to the current settings do **not** get automatically saved to Global profiles. Global profiles must be manually and explicitly saved or deleted. The following settings are saved in global profiles:

Panadapter:

- Frequency, bandwidth and dBm scaling (right side of panadapter)
- RFGain, RX Ant, Loop A and Loop B information
- Frames per second, averaging level and weighted average on/off
- DAX IQ Channel, WNB Enable and WNB Level
- Waterfall black level, color gain, line duration, auto black on/off and gradient

Slices:

- Frequency and mode
- RX filter settings
- TX and RX Antenna
- DAX channel
- Audio gain and audio pan
- AGC mode and level
- NR, NB, ANF and APF on/off and levels
- Muted true/false
- Active slice true/false
- Locked true/false
- Squelch on/off and level
- FM tone mode and frequency as well as frequency offset
- Diversity on/off and diversity slice AGC and audio settings
- RTTY mark and shift
- DIGU and DIGL offsets

Profiles:

- Mic Profile
- ANT1 linked TX profile
- ANT2 linked TX profile
- XVTR linked TX profile

The Profile Manager allows you to load/save/delete your Global profiles but SmartSDR also provides a shortcut for quickly loading a Global profile. If you click the Profiles menu on the main menu bar of SmartSDR (the same one to access the Profile Manager) the dropdown will have a list of your Global profiles. Simply click the profile you want to load.

Saving, loading and deleting a Global profile has several implications that are important to be aware of.

Saving: To save a Global profile you must have all the panadapters and slices you want to save created and with the desired settings. You also have to be aware of the TX ANT to TX profile **linking** that currently exists as these will be saved as well. The currently selected Mic Profile will also be saved as long as it has not been modified (no * on the name). If the currently selected Mic Profile is modified then a **new** Mic profile will be created and saved using the name of the Global Profile. An example of saving a Global profile is presented below:

1. You have one panadapter and Slice A on 20M
2. Set the TX ANT on Slice A to ANT1 and load your **High Power** TX profile (ANT1 **linked** to **High Power** TX profile)
3. Set the TX ANT on Slice A to ANT2 and load your **Low Power** TX profile (ANT2 **linked** to **Low Power** TX profile)

4. Load the **Default** Mic profile
5. Save the Global profile as **20M One Slice** (this saves all settings including the **linking** of ANT1 and ANT2 to their respective TX profiles)

Loading: When you load a Global profile all the panadapters and slices you had saved in the profile will be restored with their respective settings. The TX ANT to TX profile **linking** will also be restored. It is important to double check your power settings since the loaded TX profiles might not be compatible with your current hardware setup. The Mic profile that was saved will also be restored. NOTE: Changes made to slices/panadapters **will not** be automatically saved to the loaded profile. This must be done by re-saving the profile under the same name. An example of loading a Global profile is presented below:

1. You have one panadapter and Slice A on 10M
2. Slice A's TX ANT is ANT1 and the linked TX profile is **10M**
3. Load the **20M One Slice** Global profile
4. One panadapter and Slice A are restored on 20M
5. Slice A's TX ANT is now ANT2 and the TX profile is **Low Power**
6. Switch Slice A's TX ANT to ANT1 (this loads the **High Power** TX profile)

Deleting: To delete a Global profile you must select it in the Profile Manager and click the **Delete** action button. You will be prompted for confirmation. Deleting a Global profile **DOES NOT** remove any TX or Mic profiles that might have been saved within it. You will have to manually delete any TX and Mic profiles you would like removed. An example of deleting a Global profile is presented below:

1. Select the **20M One Slice** Global profile in the Profile Manager and click the **Delete** action button
2. A dialog box will ask you for confirmation. Click **Yes**
3. The **20M One Slice** Global profile will be deleted but the TX profiles (**Low Power, High Power** and **10M**) and the Mic profiles (**Default**) will remain in their respective lists.

FOR MORE INFORMATION

1. FLEX-6000 Family Quick Start Guide
   (http://www.flexradio.com/downloads/flex-6000-family-qsg-single-page-pdf/)
2. SmartSDR for Windows Software Users Guide
   (http://www.flexradio.com/downloads/smartsdr-software-users-guide-pdf/)
3. SmartSDR Brochure
   (http://www.flexradio.com/downloads/smartsdr-brochure-pdf/)
4. FlexRadio Systems Help Desk
   (https://helpdesk.flexradio.com/hc/en-us/)
5. FlexRadio Systems Community
   (https://community.flexradio.com/flexradio)

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