

# SDRMonitor

(Version 2.4.0 -- Revised: January 18, 2024)



# Users Guide

*Ray Andrews, K9DUR*

## TABLE OF CONTENTS

Table of Contents .....	2
Introduction .....	3
System Requirements.....	3
Installation.....	3
Program Operation.....	3
Main Display .....	4
Setting the Display Position.....	4
Closing the Program .....	5
Pop-Up Menu .....	5
System Tray Icon & Menu.....	5
About the Author .....	5
Revision History.....	6

## INTRODUCTION

**SDRMonitor** is a small utility for use with FLEX-6000 series radios running **SmartSDR™**. It displays the current power supply voltage and power amplifier temperature of the connected radio.

**SDRMonitor** communicates directly with the radio over the local network using the **FlexLib™** API.

## SYSTEM REQUIREMENTS

**SDRMonitor** requires Windows Vista or later. It is a 32-bit application, and therefore will run on a computer with either a 32-bit or a 64-bit processor.

**Adobe Acrobat Reader®** or a similar program capable of displaying .pdf files is required to view the program documentation.

## INSTALLATION

Run the installation package file, **SDRMonitorSetup.exe**. This will install **SDRMonitor.exe** and all required supporting files on your computer. The installer will suggest a default location for the program file. You may change the location or leave it at the default, it does not matter.

## PROGRAM OPERATION

When the program starts, the window shown in Figure 1 will be displayed. This window will contain a list of available FLEX-6000 series radios for you to choose between. Connect to the desired radio by double-clicking on it in the list or by clicking on it and then clicking on the **Connect** button. If you click on the **Cancel** button, the program will close.



**Figure 1 -- Radio Connection Window**

If you have **Autoconnect** selected, the program will automatically connect to the first radio it discovers. If no radio is found after 15 seconds, the program will close with an error message.

## MAIN DISPLAY

After you have connected to the radio, the main window, shown in Figure 2, will be displayed.



13.46V 32.8°C

Figure 2 - Main Window

The left box displays the current power supply voltage. The data sheet for the 6000-series radios lists the acceptable power supply voltage as  $13.8V \pm 15\%$ , which translates to a range of 11.73V to 15.87V. If the voltage drops below 12.0V, then the display colors will change to red letters on a yellow background. If the voltage exceeds 15.5V, then the display colors will change to yellow letters on a red background.

The right-hand box displays the current temperature of the power amplifier either in degrees Celcius ( $^{\circ}C$ ) or in degrees Fahrenheit ( $^{\circ}F$ ). If the temperature exceeds  $70^{\circ}C$  ( $158^{\circ}F$ ), then the display colors will change to yellow letters on a red background.

## SETTING THE DISPLAY POSITION

To change the position of the display on the screen, place the cursor over the display, hold the left mouse button down, and drag the display to the desired position.

There are two display position modes depending on whether *Anchor to SmartSDR* is selected or not:

- *Anchor to SmartSDR* off -- the **SDRMonitor** window will always be displayed at the same position on the screen regardless of whether the **SmartSDR** client is running or not.
- *Anchor to SmartSDR* on – If the **SmartSDR** client is running, then the **SDRMonitor** window will be displayed at a position relative to the position of the **SmartSDR** client window.

To set the display position:

1. Start **SDRMonitor** without starting the **SmartSDR** client.
2. Drag the **SDRMonitor** window to the desired position on the screen.

If *Anchor to SmartSDR* is selected, you also need to do the following.

3. Start the **SmartSDR** client.
4. Drag the **SDRMonitor** window to a position that is totally inside the **SmartSDR** client window.

If *Anchor to SmartSDR* is not selected, the **SDRMonitor** window will always be displayed at the position set in step #1.

If *Anchor to SmartSDR* is selected and the **SmartSDR** client is not running or its window is minimized, the **SDRMonitor** window will be displayed at the position set in step #1.

If *Anchor to SmartSDR* is selected and the **SmartSDR** client is running, the **SDRMonitor** window will be displayed at the position set in step #4.

## CLOSING THE PROGRAM

To close the program, you can either:

- Right-click on the main display to display the pop-up menu and click on "Close SDRMonitor", or
- Right-click on the system tray icon & click on "Close SDRMonitor".

## POP-UP MENU

Right-clicking on the main window will display a menu with the following items:

- **Always On Top** -- Toggles whether the display will always display on top of other applications.
- **Anchor to SmartSDR** -- Toggles whether the program will anchor its window position relative to the position of the SmartSDR client.
- **Autoconnect** -- Toggles whether the program will automatically connect to the first radio found. Also, program will continue running when the connection to the radio is lost & will automatically re-connect to the radio when the radio is found again.
- **Degrees F** -- Toggles whether the program will display the temperature in Celsius (°C) or in Fahrenheit (°F). The program displays the temperature in degrees Celsius by default.
- **Reset to Defaults** – Resets all settings to their default values.
- **Display Documentation** -- Displays the program documentation (this document).
- **About SDRMonitor** -- Displays basic information about the program.
- **Close SDRMonitor** -- Closes the program.

## SYSTEM TRAY ICON & MENU

**SDRMonitor** does not display an icon on the task bar, but rather puts a small icon in the system tray.

Right-clicking on the system tray icon will display a menu with the following item:

- **Close SDRMonitor** -- Closes the program.

## ABOUT THE AUTHOR

**SDRMonitor** was written by Ray Andrews, K9DUR.

Ray holds an Amateur Extra class license and was first licensed in April 1960. He currently resides in West Terre Haute, IN, and is a retired electronic design engineer and software developer. He operates a small custom software consulting business just to keep him out of mischief between camping trips.

For more information, visit Ray's web page:

<https://k9dur.us>

## REVISION HISTORY

- v2.4.0 – Jan 18, 2024 – Restructured window positioning code. Fixed bug where display not updating if SmartSDR minimized.
- v2.3.1 – May 13, 2018 – Increased main timer from 100ms to 500ms to reduce CPU load.
- v2.3.0 – May 2, 2018 – Moved the setup menu from the system tray to a pop-up menu on the main window.
- v2.2.3 – October 14, 2017 – Corrected donation page URL.
- v2.2.2 – September 1, 2017 – Fixed bug causing program crash if radio shut down.
- v2.2.1 – February 6, 2017 – Re-compiled with latest FlebLib .dll files. Added scaling factor to voltage readout for versions of SmartSDR before v1.11.1.
- v2.2.0 – November 18, 2016 – Moved setup data from “My.Settings” to .xml file.
- v2.1.0 – October 21, 2016 – Added option to display temperature in °C or °F.
- v2.0.4 – January 6, 2016 – Refined code that gets handle to SmartSDR window.
- v2.0.3 – December 23, 2015 – Changed anchor to SmartSDR behavior so that it only anchors to the main window & not the setup screen.
- v2.0.2 – December 14, 2015 – Changed autoconnect behavior to leave SDRMonitor running if connection to radio is lost & automatically re-connect when the connection is re-established.
- v2.0.1 – December 11, 2015 – Fixed Z-order issue that was preventing SDRMonitor from being displayed on top of the SmartSDR client in certain circumstances.
- v2.0.0 – December 9, 2015 – Automated “Anchor to SmartSDR” function.
- v1.1.1 – November 6, 2015 – Added program name to title bar of “Radio Connection Lost” message box.
- v1.1.0 – October 31, 2015 – Added the ability to automatically connect to the first radio found.
- v1.0.1 – September 15, 2015 -- Made changes to prevent user from clicking on "Connect" before radio is listed. Cleaned up the way the program reacts to loss of connection to radio.
- v1.0.0 – September 13, 2015 -- Initial Release.