Scheduler

User's Guide

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Introduction

The **FMSuite Scheduler** application (called SC in the rest of this guide) is a free plugin designed for use within the SDR Sharp software application. It provides a means of creating, using, and re-using schedules to manage frequency changes in SDR#.

This new plugin permits you to define multiple operating schedules. When a schedule is activated, the Scheduler will change the frequency on the dates and times you specify. You can use a schedule only on the

dates and times defined in it, or you can ignore the dates and re-use the time portions of the schedule on any date. Schedule activity is logged to a file so that you can review the actions it took.

Features Summary

SC adds the following features to SDR#:

- A collapsible panel containing the scheduler controls.
- The Manage Schedules grid that allows you to Add, Edit, Delete, and Use schedules.
- An Add/Edit grid that allows you to Add and Delete dates, times, frequencies to a schedule and to name or rename a schedule.
- Options to ignore any dates in the schedule and use only the times (useful for re-using a schedule without having to edit it) and to log the schedule activity to a text file.
- Run the selected schedule; which also displays the date, time, and frequency of the next scheduled frequency change.

System Requirements

Basically if you can run SDR Sharp, you can use the Scheduler plugin. As with any software, the more capable your hardware the better the software will run.

- **Operating Systems:** Windows 7, Windows 8.x, and Windows 10. The binaries are compiled for a 32-bit environment for the broadest compatibility but run equally well in an x64 environment.
- **Processor:** 1-gigahertz processor or faster; 2 or more cores is recommended for suitable performance.
- **Memory:** 1 gigabyte or more total in the computer.
- **Hard Disk:** The software requires less than 40KB.
- **.NET:** Version 4.6 runtime as required by SDR Sharp.
- **SDR Sharp:** Revision 1408 or newer.
- **Frequency Manager + Scanner** from the Frequency Manager Suite.

> ⓘ **Important Note**
>
> SDR# is a hobby project created by other people and I am not involved in it. I have no control over changes made to SDR#. I am completely at their mercy as to how their changes affect SC. They are under no obligation to inform me of changes; I won't know if their changes will break my plugins until the plugins are run with the new version of SDR# and you tell me there is a problem. As a result there <u>will</u> be a period after they make a breaking change in which my plugins may not work. Please be assured I will make any necessary changes, and release updates, as soon as practical after SDR# is changed and I have identified the issue.

Using Scheduler

The Scheduler Panel

Manage Schedules

This button displays the Manage Schedules window (described below) so that you can create and organize your schedules.

Selected Schedule
Once you have selected a schedule to run, its name will appear under this caption.

Ignore Dates; use only Times
When this checkbox is checked SC will ignore any Dates in the schedule. It will assume the next schedule event *after right now* is the first frequency change of the schedule, that any events later than that but before local midnight are to happen today, and that any events *earlier than right now* are to happen tomorrow.

Log activity to a file
When this checkbox is checked SC's schedule activity will be recorded in a text file in a subfolder named FMSuite.Scheduler.Logs, which will be in the same folder that contains SDR#. The log is named for the Date on which the schedule is started and contains the date and time of the action; whether the log entry is for Information, a Warning, or an Error; and details about the schedule action.
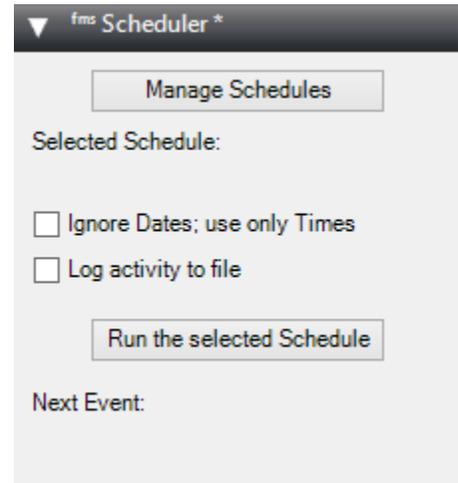
A short schedule might create a log file whose data like this:

```
2015-02-14 08:22:00  INFO  ------------------------------------------------
2015-02-14 08:22:00  INFO  Started Schedule 'My First Schedule'
2015-02-14 08:22:00  INFO  Ignore Dates = True
2015-02-14 12:00:00  INFO  Tuned to 220,612,500  ESP Wireless Technology Group, Inc.
2015-02-14 16:00:00  INFO  Tuned to 151,677,500  MHC Operating Limited Partnership
2015-02-14 18:00:00  INFO  Tuned to 461,825,000  Stratosphere Hotel Casino
2015-02-14 22:00:00  INFO  Tuned to 814,437,500  Nevada Power
2015-02-15 04:00:00  INFO  Tuned to 452,900,000  Vegas Wireless LLC
2015-02-15 04:00:00  INFO  No more events in this schedule
2015-02-15 04:00:00  INFO  Schedule 'My First Schedule' ended
```

This example schedule was started on February 14. In the third line you can see that Ignore Date is True; that means that this schedule was actually created for a prior date and was re-used on the 14th.

Run the selected Schedule
Clicking this button starts the selected schedule. When a schedule is running, the caption of this button changes to Stop the Schedule

Next Event
This label displays the date, time, and frequency of the next scheduled frequency change.

The Manage Schedules window

This window contains a list of schedules and action buttons that permit you to Add a new schedule, Edit a schedule, Delete a schedule, and Use the selected schedule.

Delete Schedule

To delete a schedule, select the schedule's row in the list and simply click Delete. You will be prompted to confirm that you want to delete that schedule.
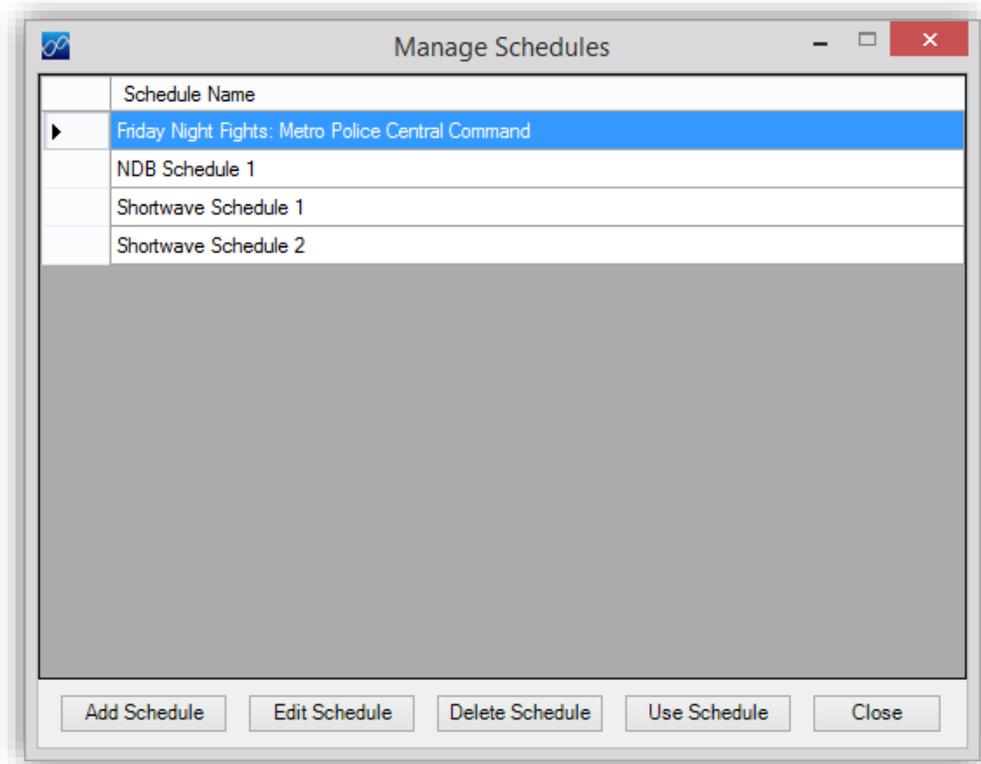
Use Schedule

Use this button to select the schedule that you want to run next. Just select the schedule's row, click the Use Schedule button, and that schedule's name will appear in the SC window under Selected Schedule.

Add or Edit schedules

Clicking these buttons displays the Add/Edit window. The same window is used for both adding and editing schedules.

In the text box at the top of the window, enter the name of your schedule. If you are editing an existing schedule you may rename it by simply typing the new name and saving the schedule. The name of the schedule is required.

When adding or editing a schedule you use four primary controls.
- The row header, at the far left of each row, is used to select the entire row. When you have selected a row, the icon in the row header of the row is an arrowhead pointing to the Local Date. When you have started editing a row, the icon changes to a pencil. A new unedited row has an asterisk icon to indicate it is ready for the creation of a new scheduled event. New unedited rows are always the last row in a list.

- The Local Date control lets you specify the date for the event. On a new event, the date defaults to the current date. You may type the date, using cursor left and right to move between day, month, and year; or you may click the down arrow in the control and choose the date from a calendar. You can advance to the Local Time by pressing the Tab key.
- The Local Time control lets you specify the local time for the frequency change, using a 24-hour clock. On a new event, the Time defaults to the current time. You may type the hour and minutes values using the left and right cursors to move between the values. You can advance to the Frequency List by pressing the Tab key.
- The Frequency list contains all of the entries in the Frequency Manager + Scanner database. You may drop open the list, scroll through it, and select the desired frequency. If you are editing an existing frequency you may get control of the Frequency list by Tabbing to it from the Local Time control, or by double-clicking the frequency description, or by clicking the down arrow at the right end of the Frequency.
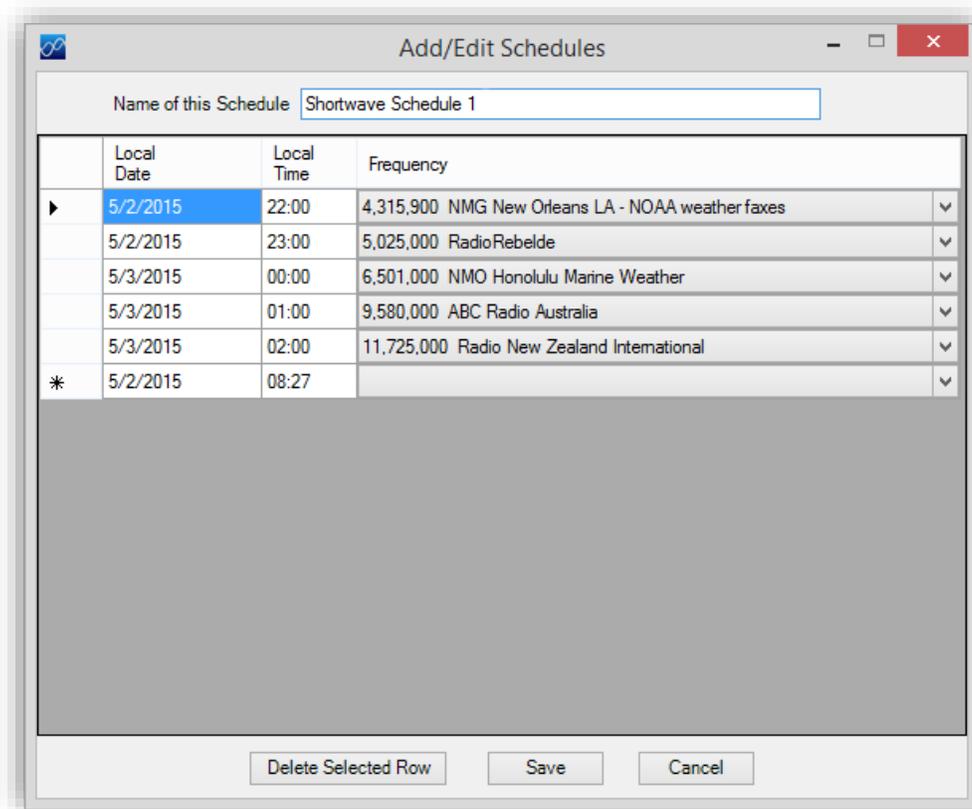
There are three buttons along the bottom of the window.
- The Delete Selected Row button deletes a row of the schedule.   To delete a row, click the row header of the row you wish to delete. The Local Date and Time will be highlighted. Click Delete to delete that row.
- The Save button commits your changes to the database and returns you to the Maintain Schedules window. You will not be permitted to save schedules that are missing a Frequency selection.
- The Cancel button exits to the Maintain Schedules window without saving your changes. This also applies to deleted rows; if you mistakenly delete a row, click Cancel and the row will not be deleted.

Running a Schedule

Once you have a schedule created you can run it.

1. Using Manage Schedules, select the desired schedule and click the Use Schedule button.
2. Select the options "Ignore Dates; use only Times" and/or "Log activity to file".
3. Click the Run Schedule button. The schedule will start. If the radio is not running at this time a prompt will be displayed asking if you want to run the schedule anyway.

When a schedule is running the Scheduler panel looks like this:
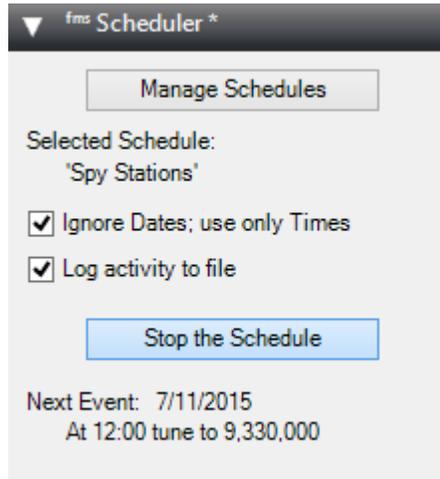
Note that the panel displays the name of the selected schedule and the date, time, and frequency of the next schedule change.

When a schedule is finished the Schedule will automatically stop and indicate that the schedule is finished in the Next Event text.

Tips & Tricks

- You cannot change the order of the rows in a schedule; so if you plan to adhere to the dates in a schedule you should enter the frequencies in order of Local Date and Local Time.
- If you use the dates in a schedule your schedule can span multiple days.
- If you Ignore Dates when running a schedule, the schedule will run only until the last Time that is less than the time of day when the schedule started. There may be conflicts in events due to the specified Local Times when Dates are ignored and this will make your schedule unreliable. Keep schedules that you re-use shorter than 24-hours in length in order to avoid scheduling conflicts.
- If your schedule contains Dates and Times in the past, and you are adhering to dates in the schedule (Ignore Dates is unchecked), those rows of the schedule will be ignored. The next Date and Time to be used is the first one that is later than the schedule is started.

Troubleshooting

I wish I could say that there will never be any challenges, but in reality stuff happens. Please try the following remedies if you have problems.

Problem	Potential Solution(s)
A popup appears with the message "*An error occurred. The error was:*" followed by some technical information.	1. This is rare and usually happens when there is a problem with the database. Stop and close SDR Sharp. Make sure no other processes are using the database – for example a backup or database editor. Restart your computer if necessary to be sure. If that doesn't fix the problem, ensure that you have sufficient Windows permissions to alter the database and the folder that contains it. If the problem continues please send an email which includes all of the text in the popup plus the steps you took to get to this point, to the address on the 1st page of this document. 2. SC unavoidably must access the internals of SDR Sharp and the Frequency Manager + Scanner. It is possible that a new release of SDR Sharp has changed the architecture to a point where SC cannot access its internals. SC may appear to load correctly but may not work correctly. In this situation please send an email which includes all of the text in the popup to the address on the 1st page of this document. Include the Revision number of SDR Sharp that you are using, and I will make changes and publish a new version as soon as possible.
A popup appears with the message "*The Scheduler database exists but it is damaged. Do you want to delete it and create a new database?*"	During startup SC detected that the database exists but appears to be corrupt. Your options: 1. Click Yes to continue and replace the damaged database with an empty one. You will have to rebuild your data. 2. Click No, exit SDR Sharp, and restore the database from a backup.
Some other popup or error appears.	Send an email which includes all of the text in the popup to the address on the 1st page of this document and I'll try to identify the problem and fix it.

Known Issues

None.

Notices

- "SDR Sharp", "SDR#", and the SDR# software are Copyright © Youssef TOUIL 2012-2015.
- "FreqMgr", "Frequency Manager + Scanner", "Frequency Manager Suite"
  and software distributed with the Frequency Manager Suite are Copyright © 2013-2015 Jeff Knapp.