

Video Script

SM4BAT

SM4 Configurator Software

Welcome to Wildlife Acoustics.

This video will examine the SM4 Configurator software.

The SM4Bat FS, and SM4Bat ZC models each have sophisticated programming functions. These devices can be programmed from their front panels via buttons and display screen. It's also possible to use the SM4 Configurator software to program settings and recording schedules from a computer.

SM4 Configurator is compatible with Mac, Windows, and Linux operating systems. The software is a free download available at the Wildlife Acoustics web site.

I'll open the SM4 Configurator. The main window has three programming areas and a graphic display of a schedule calendar. The upper left corner provides options for the Deployment Scenario. The first thing I'll do is choose which model of Song Meter I'm currently using. The SM4 Acoustic and SM4Bat FS and ZC recorders have a great deal in common, but there are differences between the models. For example if I select the SM4Bat FS I see there is only one microphone configuration menu. That's because the SM4Bat FS only uses a single microphone for recording. If I select the SM4 Acoustic recorder I see menus for two microphones. The SM4 has two microphone inputs. I'm currently working with an SM4BAT FS recorder but everything in this video will apply to all three Song Meter models.

SM4 Configurator can provide estimates of battery life and memory card usage for a recording deployment. In order to make this prediction, certain information must be entered which the software will use for the calculation. I'll specify that a 16 GB memory card is installed in Slot A of the Song Meter, and the calendar now shows how long the SM4 can record with this current configuration.

If I specify a different memory card size or specify that multiple memory cards are to be used, SM4 Configurator will re-calculate and the calendar will display the new available recording time.

Start date and time of deployment can be specified. This allows the calendar to display performance of the SM4BAT based on the actual deployment schedule.

Which microphone is currently being used can be selected.

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Different types of batteries will affect how long the recorder will run. Battery life is measured in watt-hours. For example, four high quality alkaline D-cells will provide roughly 72 watt-hours. By comparison four high quality nickel metal hydride rechargeable D-cell batteries will provide roughly 44 watt-hours. Battery manufacturers typically specify amp hours or milli-amp hours. Watt hours are calculated by multiplying amp hours times average voltage. If multiple batteries are used, such as four internal D-cells, the watt-hours of each battery are added together for the total watt-hour measurement.

Lastly, the SM4BAT models can be set to record based on ultrasonic triggers, so there is an option to specify the general percentage of time the recorder will actually be triggered to record. There are many variables involved with battery life and memory card storage but entering this information will provide a reasonable general idea of what to expect.

The Settings section mirrors the options available from the front panel of the Song Meter. The settings reflect the options of the selected model. For example if the SM4 Acoustic recorder is selected as the model, the Settings section allows selection of sampling rates from 8 kHz to 96 kHz. If the SM4BAT model is selected, the available sample rates range from 192 kHz to 500 kHz.

The Schedule section displays either Daily or Advanced schedule modes. Schedule mode is selected under the Settings section. Daily mode displays schedule blocks. Daily mode Quick Start schedules can be selected from this menu. Advanced mode displays programmable command lines. If Advanced Schedule commands are set in a way that will not work, any errors are listed so the appropriate corrections can be made.

The calendar provides a graphic representation of the Song Meter deployment. The current schedule is set to record from sunrise to sunset, indefinitely. SM4 Configurator uses color-coding to show night and day, record times, and battery and memory card estimations.

SM4 Configurator can also open a WAV file directly. If the WAV file was created by a Song Meter recorder, metadata will be displayed providing information about the schedule and settings that were used to make the WAV file. Here we see that this WAV file was made by an SM4BAT FS recorder that was set to record from sunset to sunrise at a sample rate of 256 kHz.

SM4 Configurator can open or save a Configuration file which is identified by the filename extension SM4S. This allows creation and storage of multiple schedules and settings. The SM4S Configuration file can be loaded into Song Meter recorders via a memory card. A single memory card can be used to program multiple recorders.

I've programmed an Advanced Schedule on this SM4BAT recorder. I'll go to the Schedule menu and choose Export Schedule and Settings. When I press the Enter button the SM4BAT saves the Configuration file to an SD memory card.

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I'll remove the SD memory card from the SM4BAT and insert it into my computer. I'll go to the File menu in SM4 Configurator and choose Open. SM4 Configurator sees the memory card and the Configuration file created by the Song Meter recorder. I'll choose Open and SM4 Configurator now displays the schedule and settings imported from the SM4BAT. You can see the SM4BAT is currently running an Advanced Schedule that records at sunrise and sunset starting in December. The Advanced Schedule has a two day pause between recording cycles and if I scroll down in the calendar view, you can see a graphic representation of how the schedule will work. Here are the sunrise and sunset record cycles. And then you see the two day pause between the record cycles.

SM4 Configurator provides a programming option that is not available from the front panel of the recorder. When an SM4S Configuration file is saved there is an option to lock the file with a four-number code. I'll go to the File menu and there is the option to Save and also an option to Save with a lock or unlock code. I'll save the current configuration with a lock code. I'll choose a four-digit code and press OK. The next window allows me to choose the memory card as the save destination. I'll rename the Configuration file. I'm also going to save a version of the file as an unlock configuration. I'll use the same lock code and rename the file accordingly.

Now I'll reinsert the memory card into my SM4BAT recorder. I'll go to the Schedule menu and choose Import Schedule and Settings. The SM4BAT reads the memory card and displays the Configuration file originally created by the recorder. The Configuration files I've saved with lock and unlock codes are also listed. If I choose to import the locked configuration the SM4BAT displays a message asking to confirm the choice. I'll do so and the SM4BAT loads the configuration and settings and then locks the recorder. I can view the settings and schedule from the front panel but I cannot alter any parameters. The SM4BAT schedule and settings are now locked and secure.

I'll go back to the Schedule menu and choose Import. If I try to import the original Configuration file the SM4BAT displays a message that the recorder is locked and the Configuration file cannot be imported. If I choose to import the unlock Configuration file, the SM4BAT recognizes the unlock code and imports the schedule. The SM4BAT is now unlocked and can be edited from the front panel.

SM4 Configurator makes it easy to create multiple and secure Configuration files. SM4 Configurator provides an efficient workflow to manage one or more Song Meter 4 recorders.

Thank you for watching.