

At Model Sounds Inc., we are committed to delivering the highest quality products that we know how to make. We are also committed to continually improving our products by improving, or offering increasing functionality in an easy to use manner. We therefore may publish frequent firmware and software updates for our latest **ShockWave 3** sound module.

Below is a list of the various revisions which reflect these changes in firmware and/or software.

ShockWave 3 5.1.2a Release Notes - Date : February 16, 2022

1. ShockWave 3 Sound Module

- a. Fixed analogue control of engine speed not working.

2. ShockWave 3 PC Windows Application

- a. Restored Throttle and Sound Select Control Panel Tabs that were removed in 5.1.2
- b. New Software reference manual to reflect 2 (a).

ShockWave 3 5.1.2 Release Notes - Date : November 25, 2021

1. ShockWave 3 Sound Module

- a. 3-position switch now configurable in two modes – 3-Pos Switch 1x2 and 3-Pos Switch 1xN. The latter works similarly to the 2-position RC switched 1xN mode except that in the opposite 3-position switch position it stops playing all regular (non-engine) sounds.
- b. Removed Auxiliary Output pin to drive external afterburner controller.
- c. New Rev. 10 board design
 - i. Provides direct connection pins for battery for LED switched outputs for single LEDs, LED strings or LED afterburner light sets.
 - ii. To ultimately support serial bus inputs. Serial Bus firmware not implemented.
 - iii. Removed old 6-position switch which was no longer used.
 - iv. Increased the size of the push-buttons to aid usability.
 - v. Removed rarely used Throttle output used to trigger external afterburner controller – The Built-in LED outputs can be configured to use the ShockWave 3 built-in afterburner controller.
Repurposed those pins to serve as serial bus input.
- d. New quick-start guide and hardware reference manual to document the new board connections and board appearance.
- e. Analogue control of engine speed doesn't work.

2. ShockWave 3 PC Windows Application

- a. Changed Control Panel Hardware Tab to support both 3-Pos Switch 1x2 and 3-Pos Switch 1xN. Switch modes.
- b. Removed Throttle and Sound Select Control Panel Tabs.
- c. New Software reference manual to document the new Control Panel Hardware Tab.

ShockWave 3 5.1.1 Release Notes - Date : January 20, 2021

1. ShockWave 3 Sound Module

- a. Engine sound volume change with throttle position (as well as the usual speed change) now supported using Eng1MaxMinSPLRatiodB and Eng2MaxMinSPLRatiodB fields in the BasicHardwareSettings.txt file. – mainly for model boats, not aircraft.
- b. Fixed MANUAL Throttle Button setup not working.
- c. Added voice guidance to MANUAL Throttle Button setup.
- d. Added on-board button Scroll Through mode navigation for local, non-remote, selection of active sound set.
- e. Changed System sounds to be always on except for the initial voice announcement of sound set configuration which can be switched off and on using BUTTON 1. This allows for more voice guided instructions and assistance without the user having to know whether the system sounds are on or off.
- f. Removed ability to set relative volume of system sounds as this was very confusing and error prone.
- g. Added ability to associate LED switched outputs with the afterburner sound clip, and to add random flickering effect to LED outputs for airplane afterburner LED arrays.
- h. Added Auxiliary Output pin to drive external afterburner controller.
- i. Added ability to set the Afterburner Sound Throttle Position using a push button.
- j. Added remote E-Z-Sync setup.

2. ShockWave 3 PC Windows Application

- a. Software Reference Manual - removed the Table of Figures as it had very little utility.
- b. Removed ability for the end user to edit the system sounds file.
- c. Software Reference Manual - removed the entire chapter on System Sounds as they are no longer editable by the end user and are therefore of no concern to the user.
- d. Changed main window context menu to allow identifying an engine sound as an afterburner sound type. This is also set automatically when adding a sound clip file that has “afterburner” in its file name.
- e. Changed Control Panel->Switches Tab to allow associating an LED switched output with an afterburner engine sound and to add a flickering effect.

ShockWave 3 5.1.0 Release Notes - Date : June 20, 2020

1. ShockWave 3 Sound Module

- a. Fixed Play Once sounds not being switched off when using RC 1x1 input mode.
- b. Fixed -ve Logic Sense on Logic Level input configuration not working.
- c. Fixed SOUND3, SOUND4 and SOUND5 inputs not responding to logic level inputs.
- d. Fixed RC Remote Volume Control on SOUND1 input not working.
- e. Added mandatory BasicHardwareSettings.txt file to simplify some basic hardware settings and allow them to be manually edited in a simple text file.
- f. Added new unique Remote Scroll-Through Mode feature to announce the name of the selected sound set and to scroll up and down through the specified sound set folder using a remote RC channel on SOUND1 input.
- g. Fully support the new DopplerFX feature.
- h. Added a new DopplerFXSettings.txt file on the microSD card.
- i. Migrated DopplerFX Speed Multiplier and Satellite Mode Settings from the 6-position switch into the DopplerFXSettings.txt file on the microSD card.
- j. Removed Remote DopplerFX Speed Multiplier option. Speed Multiplier is now set solely in the DopplerFXSettings.txt file on the microSD card.
- k. Removed DopplerFX Use Altitude option as it diluted the effect of ground speed calculations.
- l. Migrated the Throttle Setup Mode from the 6-position switch into the BasicHardwareSettings.txt file on the microSD card.
- m. Clarified usage of push buttons in the ShockWave 3 Hardware Reference manual.

2. ShockWave 3 PC Windows Application

- a. Clarified correct power up sequences and when to include and not include the microSD card inside the ShockWave 3 module in the ShockWave 3 Software manual.
- b. Corrected many incorrect tooltips in the Control Panel->Hardware Tab.
- c. Added new Stop All button in Main Window to stop playing all sounds in case you are playing multiple sounds and forgot which ones.
- d. Fixed Engine Control Form usually not working on first attempt.
- e. Updated Control Panel->DopplerFX Tab to include DopplerFX Speed Multiplier and Satellite Mode Settings which are now stored in the DopplerFXSettings.txt file.
- f. Updated Control Panel->Hardware Tab to include Throttle Setup Mode which is now stored in the BasicHardwareSettings.txt file.

ShockWave 3 5.0.2 Release Notes - Date : July 20, 2019

1. Fixed Analog Voltage control for Engine1 and Engine2 not working.
2. Fixed THRTL2 engine startup not working properly.
3. Added 3-position RC switch option for THRTL1 input pins in Control Panel->Hardware Tab.
4. Low Battery voltage alarms now supported in Control Panel->Hardware Tab.
5. Added "Output Active High" option to all four switched outputs – useful for driving logic circuits directly.
6. Added optional Engine Speed Changes Uses Frequency Multiplication in Control Panel->Hardware Tab (not compatible with DopplerFX and only if the engine sound is the only sound playing).
7. Added Throttle Ranges "Auto Set" button/function in ShockWave 3 PC application. This allows the user to set the engine startup sound throttle range and all subsequent steps can then be automatically calculated and displayed.
8. Introduced a new optional HardwareSettings.txt file in the microSD card root folder that can specify some basic Hardware settings such as Startup Delay Time without using the ShockWave 3 PC software application.

ShockWave 3 5.0.1 Release Notes - Date : March 29, 2019

1. More system sounds added. System Sounds are on by default.
2. Enabling/disabling of system sounds using pushbutton 1 now supported.
3. Setting of system sounds relative volume using pushbutton 2 now supported.
4. Remote setting of DopplerFX Use Altitude Option now supported.
5. Release notes removed from the hardware and software reference manuals and added to this new standalone RELEASE NOTES document.

ShockWave 3 5.0.0 Release Notes - Date : February 20, 2019

1. Initial Release of **ShockWave 3**.
See accompanying document **ShockWave3-ShockWave2 Differences.pdf** in the "Additional Documents" folder of the **ShockWave 3** microSD card.
2. Multi-Engine Sync. feature not yet supported. Reserved for a future release.
3. Low Battery voltage alarms not yet supported. Reserved for a future release.
4. Enabling/disabling of system sounds and setting of system sounds relative volume not yet supported.
5. Remote setting of DopplerFX Use Altitude Option not yet supported.