



This is a Quick Start Guide only containing generic and typical instructions. Please follow your module specific connection instructions on the large label on the anti-static bag that the module came in.

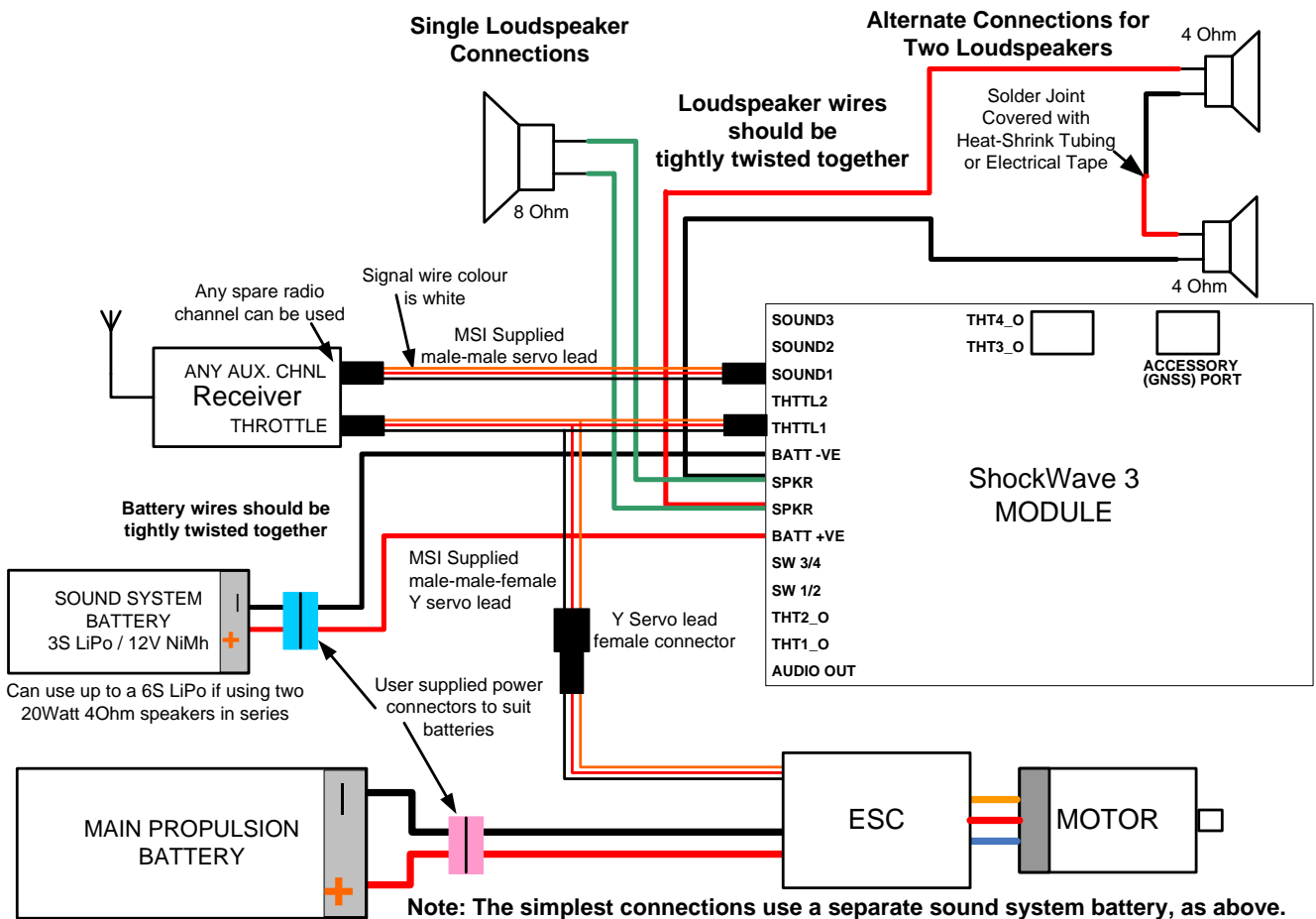
For comprehensive instructions, please read the [ShockWave3HWReferenceManual.pdf](#) document in the Manuals-Instructions folder on the microSD Card that is in the sound module. Insert the microSD Card into the included USB microSD card reader and insert that into one of your computer's USB ports.

**THEN MAKE BACKUP COPIES OF THE CONTENTS OF THE MICROSD CARD!**

**ALWAYS MAKE BACKUP COPIES OF ANY KIND ON TO MORE THAN ONE DRIVE OR EXTERNAL MEDIA!**

<b>WARNING: DO NOT EXCEED THESE BATTERY VOLTAGES</b>	<b>One 4 Ohm 20 Watt Speaker/Exciter</b>	<b>Two 4 Ohm 20 Watt Speakers/Exciters in series</b>
<b>Maximum Battery Voltage</b>	<b>3S LiPo / 12 Volt NiMh/gel</b>	<b>6S LiPo</b>

**TYPICAL WIRING FOR ONE THROTTLE – USING ESC BEC (BATTERY ELIMINATOR CIRCUIT)**

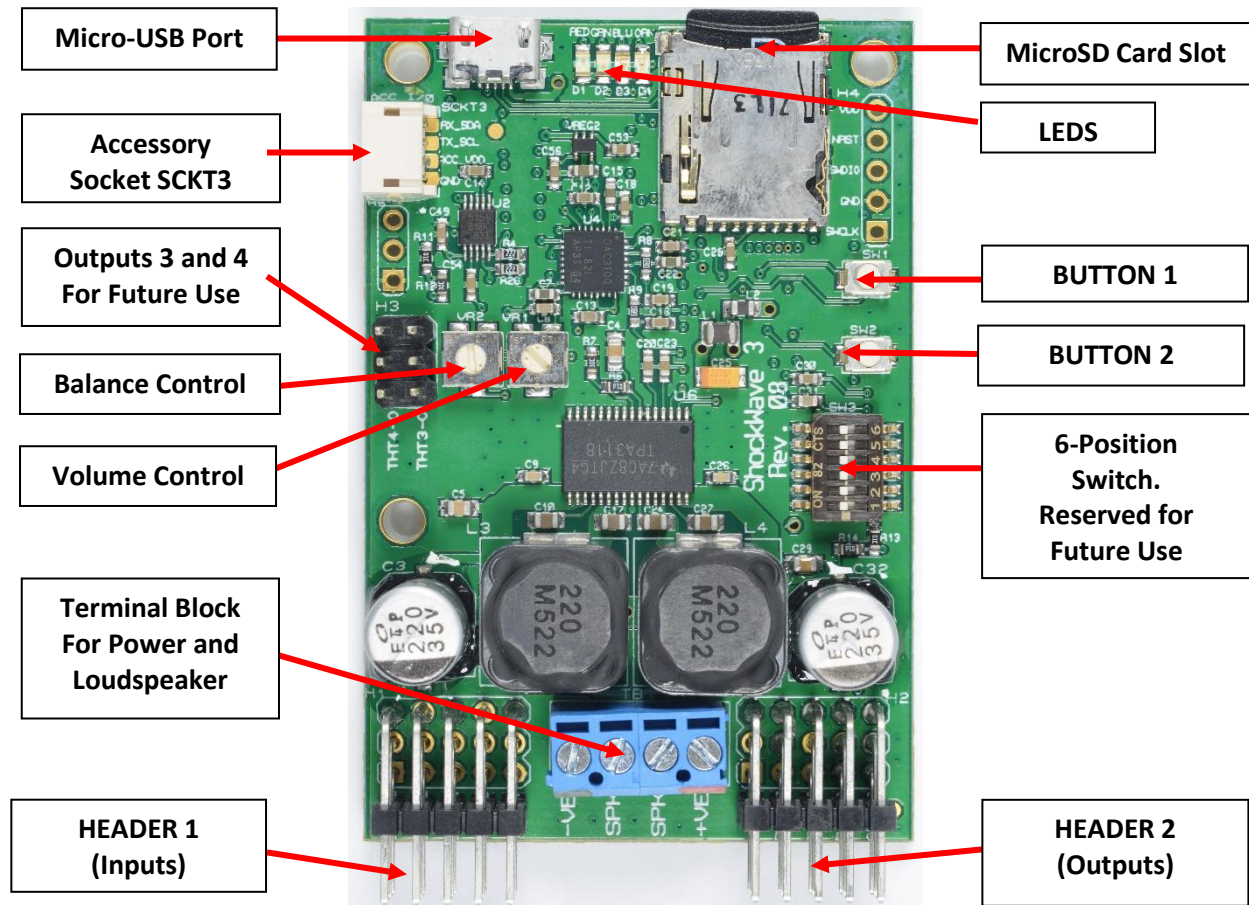


**Note: The simplest connections use a separate sound system battery, as above. You can use the same battery as the ESC/Motor but you'll need a Y Power splitter lead with suitable connectors to feed the one battery to both the ESC and the sound module.**

**DO NOT REVERSE THE BATTERY CONNECTIONS. THE MODULE WILL BE DESTROYED IF YOU DO.**



## SHOCKWAVE 3 SOUND MODULE CONNECTIONS



Power supply input and loudspeaker connections are made through the centre terminal block TB1. All R/C receiver inputs for throttles and sound select are at **HEADER 1**. Optional throttle outputs, switched outputs and audio line outputs are at **HEADER 2**. In order to hear sound from the speaker, 4.5 – 26 Volts power must be on the main terminal block terminals 1 and 4. **Recommended gauge for loudspeaker and battery wire is 22AWG solid core. Do not use stranded wire.**

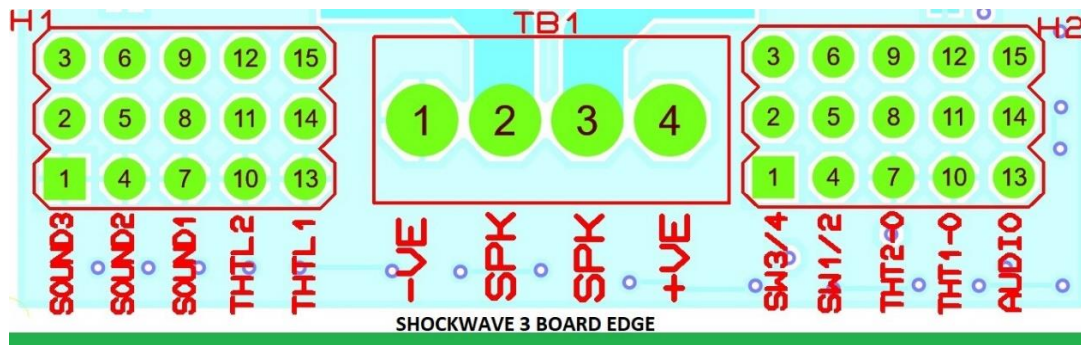
## ENABLING/DISABLING SYSTEM SOUNDS (VOICE ANNOUNCEMENTS)

System Sounds (Voice Announcements) are enabled by default when the module is delivered. To switch them all off, once the red/green LEDs have stopped flashing, press and release **BUTTON 1** quickly within 1.5 seconds. To switch them on again (this is a good idea if you are using the DopplerFX feature), press and hold down **BUTTON 1** for longer than 1.5 seconds.

## WHAT SIZE BATTERY?

The sound module will draw 1-2 Amps (2000mA) of current. Therefore, if using a separate sound system battery, a capacity of 1000mAH will suffice for at least a 30 minute run time.

## TERMINAL BLOCK AND CONNECTOR H1/H2 DETAIL



### HEADER 1 Detail – Use Male-Male or Male-Male-Female Servo Leads

Pin Numbers	Board Legend	Function	Notes
1, 2, 3	SOUND3	Sound Select3 signal in from receiver. Pin 1 is GND, 2 is receiver power, 3 is Sound Select3 signal.	Receiver power is on pin 2
4, 5, 6	SOUND2	Sound Select2 signal in from receiver. Pin 4 is GND, 5 is receiver power, 6 is Sound Select2 signal.	Receiver power is on pin 5
7, 8, 9	SOUND1	Sound Select1 signal in from receiver. Pin 7 is GND, 8 is receiver power, 9 is Sound Select1 signal.	Receiver power is on pin 8
10, 11, 12	THTL2	Throttle2 signal input from receiver. Pin 10 is GND, 11 is receiver power, 12 is Throttle2 signal.	Receiver power is on pin 11
13, 14, 15	THTL1	Throttle1 signal input from receiver. Pin 13 is GND, 14 is receiver power, 15 is Throttle1 signal.	Receiver power is on pin 14

The **BLACK GND (battery -VE)** servo lead wire always goes towards the edge of the board.

### Terminal Block TB1 Detail – Use 22AWG solid core wire

Pin Numbers	Board Legend	Function	Notes
1	--VE	Main Battery negative 4.5 Volts – 26 Volts	Do NOT reverse Battery leads!!
2,3	SPKR	Loudspeaker - Do NOT use less than 8 Ohms on voltages above 14.4 Volts. 4 Ohms is OK on 4.5 - 14.4 Volts.	Loudspeaker leads are reversible.
4	++VE	Main Battery positive 4.5 Volts – 26 Volts	Do NOT reverse Battery leads!!

**DO NOT REVERSE THE BATTERY CONNECTIONS. THE MODULE WILL BE DESTROYED IF YOU DO.**

## HEADER 2 Detail

Pin Numbers	Board Legend	Function	Notes
1, 2, 3	SW 3/4	Switched Outputs 3/4. Pin 1 is SWITCH4, 2 is <b>RECEIVER POWER</b> , 3 is SWITCH3.	Receiver power is on pin 2.
4, 5, 6	SW 1/2	Switched Outputs 1/2. Pin 4 is SWITCH2, 5 is <b>RECEIVER POWER</b> , 6 is SWITCH1.	Receiver power is on pin 5.
7, 8, 9	THT2_O	Unused – reserved for future use.	Receiver power is on pin 8. For Future Use.
10, 11, 12	THT1_O	Unused – reserved for future use.	Receiver power is on pin 11. For Future Use.
13, 14, 15	AUDIO	Line level Audio Out signals – 1.0V RMS. 13 is GND, 14, is Left Signal, 15 is Right Signal.	Used to feed external amplifier(s).

### NOTES :

- LEDs for guns or other switched loads can be connected between their Switch 1/2 terminals 4, 6 or Switch 3/4 terminals 1, 3 and **any secondary positive power supply up to a maximum of 30 Volts. DO NOT connect the external LED battery +VE supply to any pin on the sound module. DO NOT exceed 1A on each output or 4 Amps total for all switched outputs.**
- The supplied male – male – female Y servo leads for Throttle and male – male Sound Select inputs are Futaba style colours (black, red, white), but with JR style male plugs for maximum flexibility.

**The black wire is always the GND, 0V or –VE connection and should always be inserted towards the outside of the receiver case and towards the board of the sound module.**

## CONTROLLING THE ENGINE SOUNDS

By default, the Engine Sounds are switched on and off by the throttle controls only. The engine sound increases in 16 steps of increasing speed. Nudge the throttle stick forward a little bit and the engine sound will startup. It will now increase in speed with the throttle stick position.

With some models, e.g. model tanks, and helicopters, jet or turbo-prop/turbo-fan aircraft with long turbine spool-up times, it is preferable to control the engine start-up and shutdown sounds using a switched radio channel instead of using the throttle stick. This is done using our optional **ShockWave 3 PC Windows Software Application.**

**If you ordered an engine sound type like this, it will be already configured by us to use a switched radio channel to start-up and shutdown the engine sound before we shipped it to you.**

If using a pistol grip style radio, the range of motion of the throttle trigger is very small making it very difficult to use that trigger to correctly startup and shutdown the engine sound.

**Therefore, we do not recommend using a pistol grip style radio with our sound module.**

It is far better to use an airplane style stick radio where you have better control and more channels available to switch sounds.

For both types of throttle (forwards or forwards/reverse), when using the throttle stick to startup and shutdown the engine sound, nudge the throttle control forwards a little and the corresponding engine sound will start playing. If there is a separate engine start-up sound, that sound will play and then continue to loop from its loop point. As you move the throttle stick forwards the engine sound will increase in speed.

For Forwards/Reverse throttles, always nudge the throttle stick forwards **FIRST**. This teaches the module which is forwards and reverse. If the throttle is moved back to the neutral position the engine sound will continue to play in idle indefinitely. This is good for model boats and tanks. To switch off the engine sound, nudge it into reverse very slightly and **hold it there for about 2 seconds**. If you move it too far, the engine sound will continue to play with its increasing speed. If there is a separate engine shutdown sound, it will play once then stop. If there is not a separate engine shutdown sound, the engine sound will stop after the 2 second delay.

## CONTROLLING THE “REGULAR” (NON-ENGINE) SOUNDS

There are several ways of controlling the Regular (non-engine) sounds. The default method is to use a single on/off switch on the transmitter to control the sounds – this is called “**Switched RC 1xN**” mode since one transmitter switch is used to control many (N) sounds.

Alternatively, if you have a four-channel transmitter and are controlling a land-based vehicle, or a model boat, you can use one of the unused proportional stick channels to simulate a switch.

The different modes are selected in the optional **ShockWave 3 PC Software Control Panel->Hardware Tab** and work like this :

“Switched RC 1xN” Mode : One transmitter ON/OFF channel is used to switch N sounds

1. Toggle Sound Select 1 **from OFF to ON and back to OFF** N times quickly to select sound N. After a timeout of about 1 second (adjustable), Sound N will start playing. This is **Latched** action. Repeat to switch Sound N Off.

**OR**

2. Toggle Sound Select 1 **from off to ON and back to OFF** N-1 times and then move to on position **and hold it there** – Sound N will play for as long as the switch is in that **ON** position. Release the switch to the **OFF** position to switch Sound N Off. This is “**Momentary**” action.

It is best to not use the **Latched** mode unless you really need to. That mode is meant for long playing sounds such as sonar pings, music etc. where you would not want to hold the switch/stick in the on position for too long. For all other sounds such as guns, horns, Morse code etc. it is best to use the momentary mode by holding the switch in the on position for as long as you want that sound to play.

## MOUNTING THE MODULE

Mount the module using pan-head screws. Philips type screws are recommended to prevent screwdriver slippage damaging the board. Do not over-tighten the screws or the board may be damaged.

Mount the module where good air circulation can take place, especially when operating it above 18 Volts. The module will get warm on 12 Volts and quite hot on 24 Volts if operated continuously when playing sounds. Do not be overly concerned. The output amplifier is thermally protected and will shut down if it gets too hot which, in practice, it has never done.

## MICROSD CARDS

Correct operation of the sounds on the **ShockWave 3** sound module is guaranteed for only the microSD card that is supplied with it. Not all microSD cards perform the same, even if they appear to have the same specifications. The only supported microSD cards are Kingston brand Class 4 or Class 10 8GB or 16GB. **DO NOT use SanDisk cards.** Please contact us at [contactus@modelsoundsinc.com](mailto:contactus@modelsoundsinc.com) to purchase additional Kingston microSD cards pre-loaded with sounds.

## TWO 4INCH 20WATT 4OHM LOUDSPEAKERS

If you ordered a ShockWave 3-2x4x4 or a ShockWave 3-2x2x4 -EX sound system kit, it comes with two 4inch 20Watt 4Ohm loudspeakers or two exciters. They are intended to be used in pairs and wired in **SERIES**, never in parallel.

These may be used singly **ONLY** on a 3S LiPo or a 12Volt NiMh or lead gel battery. With higher voltages than 12Volts they **MUST** be used in pairs and wired in **SERIES**.

If your model can accommodate only one 4inch loudspeaker/exciter, or only smaller loudspeakers, please contact us at [contactus@modelsoundsinc.com](mailto:contactus@modelsoundsinc.com) for alternate loudspeakers.