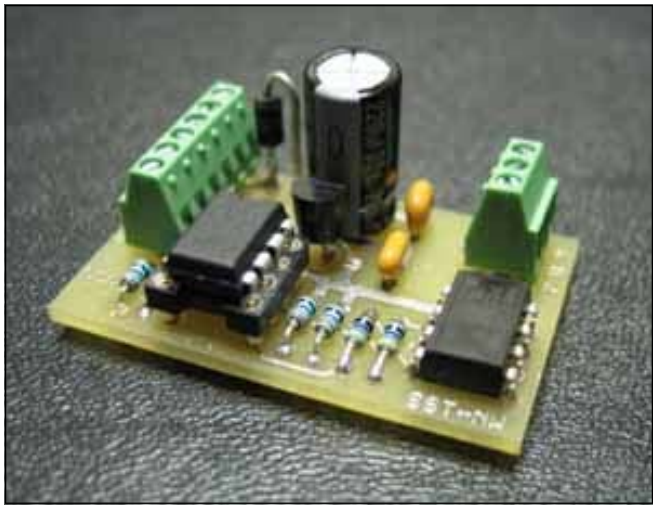
Smart Sound Trigger

Operation and Installation Manual



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Smart Sound Trigger (SST)

Overview

What does the SST module do?
The SST is an accessory module that will modify the behavior of your existing large scale train sound system.

Sound systems using track magnets to trigger the bell and whistle sounds are very repetitive and always predictable. After a period of prolonged running, that whistle may start annoying both you and your neighbors. Every time the train crosses the magnet, you hear that shrill whistle; lap, after lap, after lap ...

By statistically controlling the sound event at each track magnet, the SST module reduces the overall number of whistle events. In SST mode, each time your train crosses a magnet, the resulting sound may be the Whistle, Bell, or silence. The “Whistle” magnet will still produce the whistle most of the time, but sometimes you will get the bell, and sometimes nothing at all. Likewise, your “bell” track magnet will now produce bells most of the time, but for added variety, once in awhile you may hear the whistle, or silence. The overall “sound” level of your layout will be reduced, and not so repetitive and predictable.

If desired, normal triggering can be restored at the flip of a switch.

Which sound systems is the SST compatible with?
At present, the SST has two different board configurations which have been tested and used successfully with these sound systems:

- SST-2K2 configuration - Phoenix 2K2
- SST-Universal configuration
  - Phoenix 97
  - SoundTraxx Sierra
  - LGB 650XX Sound Modules

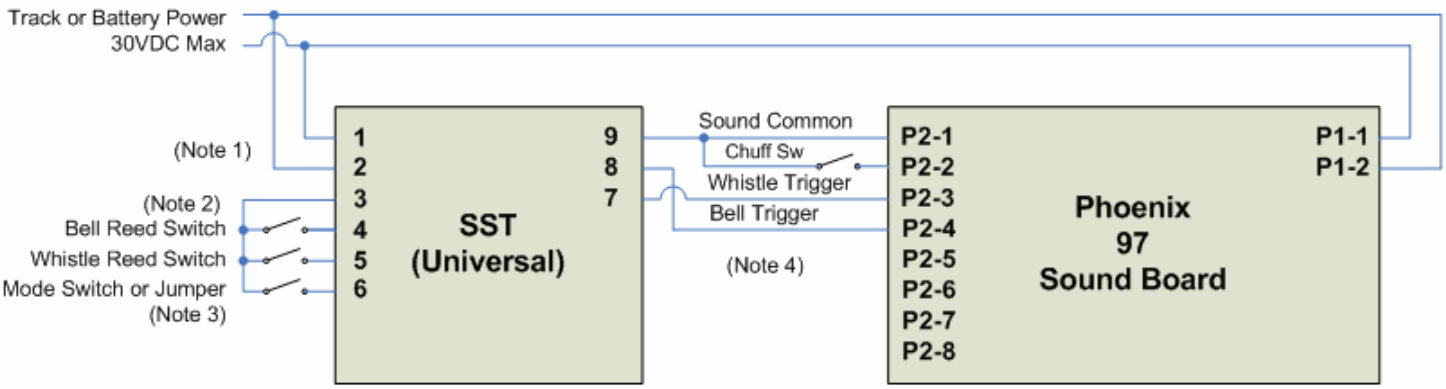
How do you install the SST?
The Smart Sound Trigger is connected between your existing reed switches and the trigger inputs of your sound board. It is a simple matter of moving a few wires and adding a few more. (We recommend using 26 AWG stranded wire. Tin the leads for long lasting connections.) The SST module is about half the size of a typical sound board, so it can usually be installed near the sound board. Just mount the board so that it isn’t touching any metal objects or bare wires.

If you are installing a new sound system along with the SST module, and will always be operating in SST mode, you can simplify the installation by only using one reed switch. The SST will still trigger both whistle and bell sounds. If you want more whistles than bells, use the “whistle” input, or for more bells, use the “bell” input.

Is the SST user programmable?
To some degree. You have the option of operating in SST mode or Normal mode via the TB1-6 switch input.

In SST mode the ratio of whistle events to bell events is not user programmable. But you can change the way it operates to some extent. Typical sound systems are set up with the whistle magnet on the right, and the bell on the left, or vice versa. In SST mode, the “Whistle” track magnets will produce more whistles than bells, and the “Bell” track magnets will produce more bells than whistles. If you would like to increase the frequency of whistles, you can move some of your “bell” magnets over to the “whistle” side of the track. If you would like to decrease the frequency of whistles, move one or more of your “”Whistle” magnets over to the “bell” side of the track. Even if you have all of your magnets on the same side of the track, you will still hear both whistle and bell sounds.

Wiring Diagram - SST-Universal with Phoenix 97



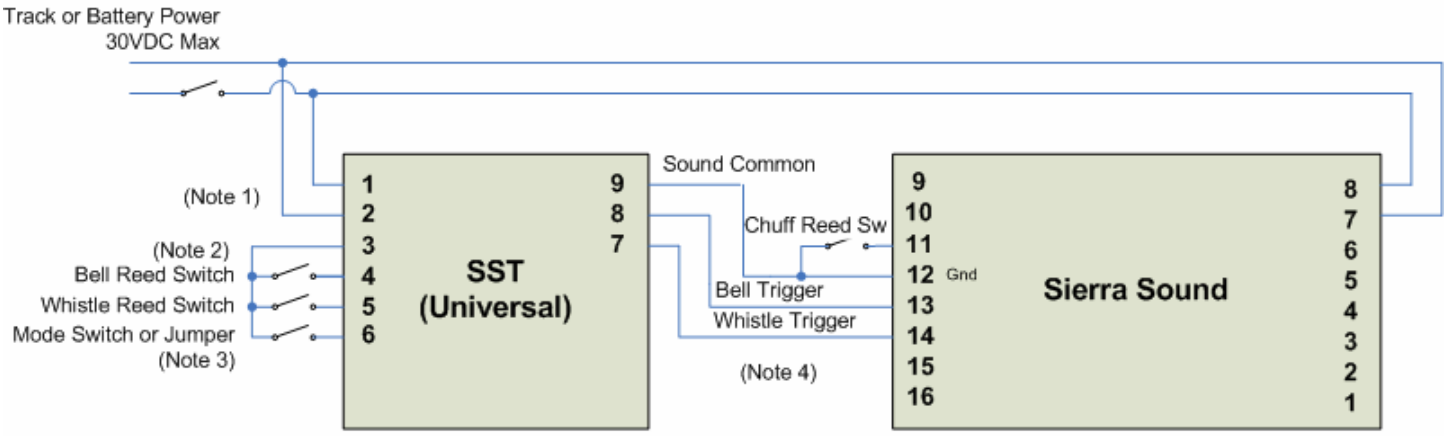
Note 1:
Add two wires from P1-1,2 to SST-1,2. Terminal 1 positive, 2 negative, when train is traveling forward.
If SST fails to trigger the bell and whistle after more than 1 lap, reverse the wiring at SST-1,2.

Note 2:
Completely separate the Bell and Whistle reed switch wires from everything else and connect as shown.

Note 3:
No connection is required at SST-6 for full time SST operation.
Optional SPST switch or jumper wire: Open for SST triggering, Close for normal triggering.

Note 4:
Add three wires to connect SST-7,8,9 as shown. SST-9 can be connected to either P2-1 or 8.
(Chuff Reed Switch is shown for reference only. It is not required for SST.)

Wiring Diagram - SST-Universal with Sierra



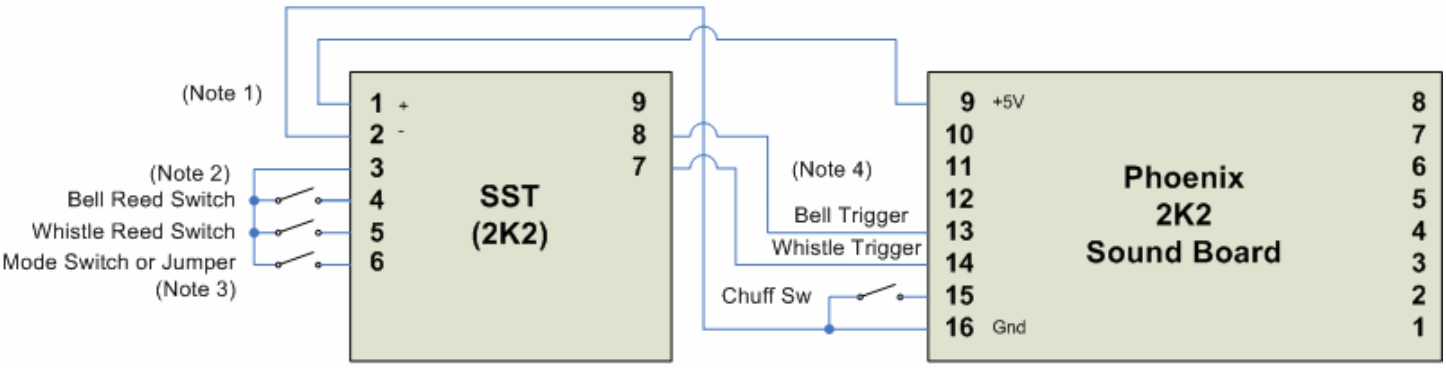
Note 1:
Add two wires from SS-7,8 to SST-1,2. Terminal 1 positive, 2 negative, when train is traveling forward.
If SST fails to trigger the bell and whistle after more than 1 lap, reverse the wiring at SST-1,2.

Note 2:
Completely separate the Bell and Whistle reed switch wires from everything else and connect as shown.

Note 3:
No connection is required at SST-6 for full time SST operation.
Optional SPST switch or jumper wire: Open for SST triggering, Close for normal triggering.

Note 4:
Add three wires to connect SST-7,8,9 as shown.
(Chuff Reed Switch is shown for reference only. It is not required for SST.)

Wiring Diagram - SST-2K2 with Phoenix 2K2



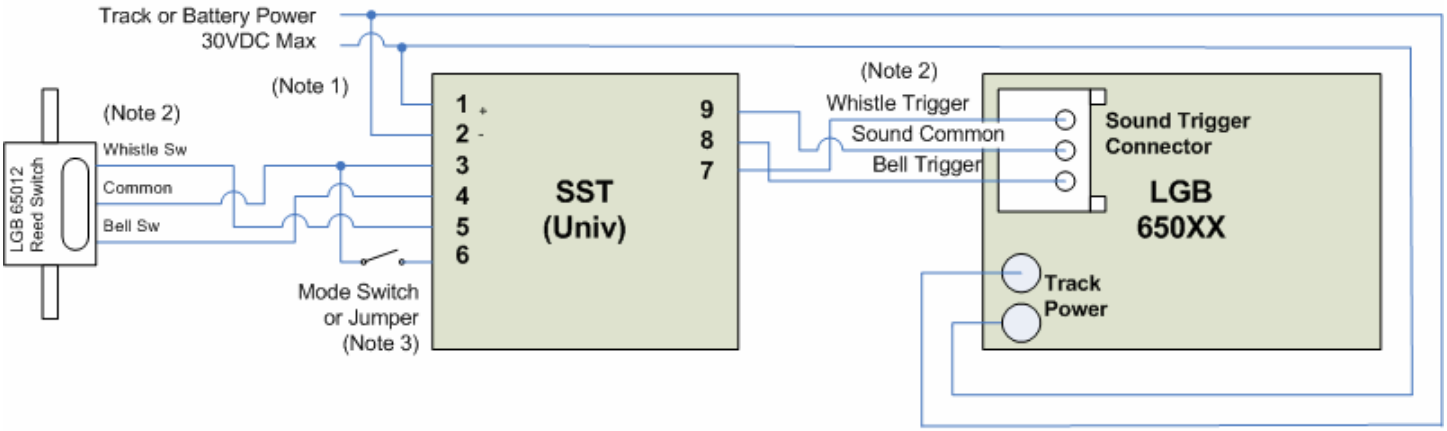
Note 1:
Add two wires from P-9(+) to SST-1(+), and P-16(-) to SST-2(-).
(This will not interfere with the operation of the computer interface, if also connected to P-9.)

Note 2:
Completely separate the Bell and Whistle reed switch wires from everything else and connect as shown.

Note 3:
No connection is required at SST-6 for full time SST operation.
Optional SPST switch or jumper wire: Open for SST triggering, Close for normal triggering.

Note 4:
Add two wires to connect SST-7,8 as shown.
(Chuff Reed Switch is shown for reference only. It is not required for SST.)

Wiring Diagram – LGB 650XX



Note 1:
Add two wires from track power to SST-1,2. Terminal 1 positive, 2 negative, when train is traveling forward.
If SST fails to trigger the bell and whistle after more than 1 lap, reverse the wiring at SST-1,2.

Note 2:
Cut the cable from the LGB 65012 Sound Trigger in half. Strip and tin the leads of the wires on both pieces.
Connect the 6 wires as shown. Note that the whistle wire is on the opposite side from the whistle symbol on the 65012.

Note 3:
No connection is required at SST-6 for full time SST operation.
Optional SPST switch or jumper wire: Open for SST triggering, Close for normal triggering.

SST Specifications

Sound System Compatibility:

The SST has been tested with -

- Phoenix 2K2
- Phoenix 97
- Soundtraxx Sierra
- LGB 650XX Sound Modules

Power Input: TB1-1(+),-2(-)

SST-Univ: 5 to 30 VDC from track or battery power.
Terminal 1 positive when train is running in forward direction. Reverse polarity protection when running in reverse direction.

SST-2K2: 3 to 5.5 VDC (Normally 5V from 2K2 board)

Switch Inputs:

Bell - Momentary closure TB1-4 to TB1-3 to trigger.
SST Mode - Mostly Bell, some Whistle, some silence.
Normal Mode - Always Bell.

Whistle - Momentary closure TB1-5 to TB1-3 to trigger.
SST Mode - Mostly Whistle, some Bell, some silence.
Normal Mode - Always Whistle.

Trigger Mode - TB1-6 to TB1-3 (Optional)
Open for SST mode, Close for Normal mode.
Use a SPST toggle switch or a jumper wire.

Switch Outputs: TB2-7,8

SST-Univ: Open collector, Opto-isolated
(Momentary closure to TB2-9 to trigger sound)

SST-2K2: 5V TTL (Momentary 5V high to trigger sound, 0V low)

Physical Size: 1.6” L X 1.0” W X 0.7” H

User Connections: Screw clamp terminal strips accept individual wires, 30 to 20 AWG.