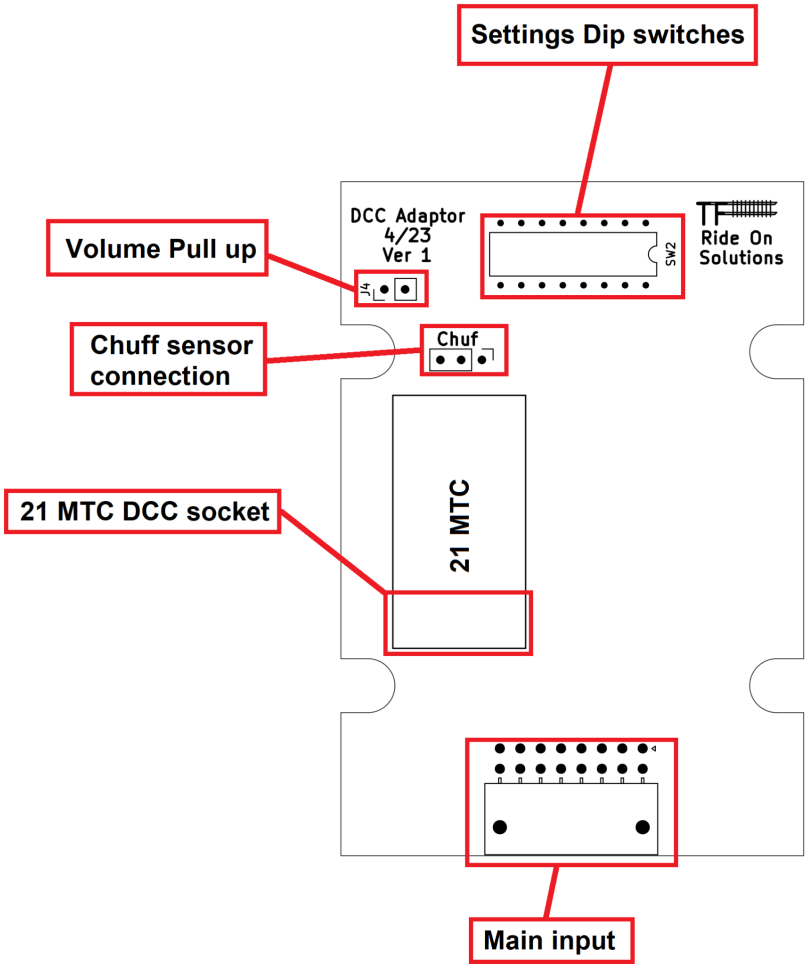
TF Ride on Solutions

DCC Sound Adaptor

1. Overview:

1.1. The following is an overview of the features on the sound card.



1.2. **21 MTC DCC socket:** This is where your 21 pin DCC decoder or FX card will go. Make sure the card is in the proper orientation and seated fully on the pins.

1.3. **Chuff Sensor Connection:** This is where the connections on the DCC decoder should be wired for a chuff sensor for steam engine sound systems. This connection corresponds to pins on the main input.

1.4. **Volume Pull Up:** This is a jumper. This is used in tandem with Dip switch 1 to select between toggle up/down volume (jumped) and potentiometer volume (NOT jumped).

1.5. **Settings Dip Switches:** This is the settings block. Use these dip switches to select different operating modes. They are as follows:

1.5.1. Dip 1: Select between Toggle up/down volume mode and potentiometer volume mode. If this dip switch is OFF then the card will be in potentiometer mode. Use a 5k or 10K potentiometer between 0 and 5v to select the volume. Make sure to remove the volume jumper.

If this dip switch is ON then volume control is in toggle up/down mode. Make sure to jump the volume jumper. Use a center toggle switch or two buttons between the volume up and volume down pins to connect them to 0V (Battery -) to activate them. Each press will result in a corresponding change in volume. The number of volume steps is 20.

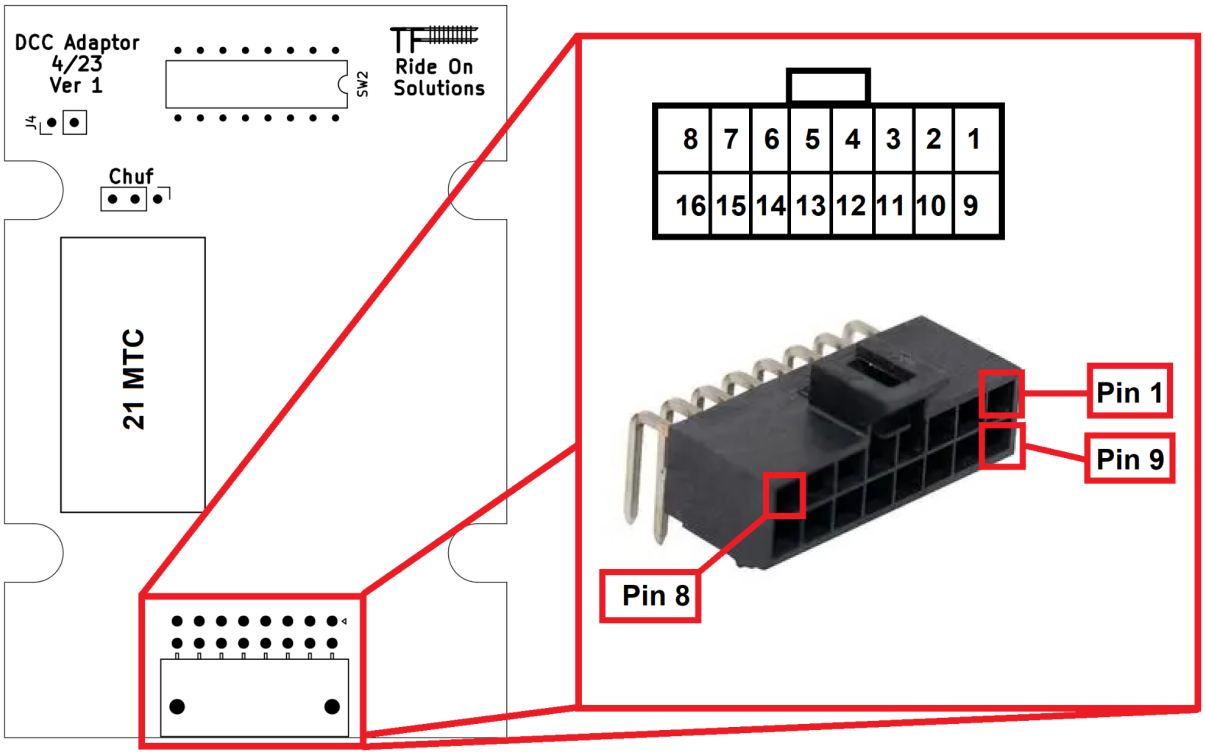
1.5.2. Dip 2: Decoder brand selection between Loksound (OFF) and Tsunami (ON)

1.5.3. Dip3: N/A
1.5.4. Dip4: N/A
1.5.5. Dip5: N/A
1.5.6. Dip6: N/A
1.5.7. Dip7: N/A
1.5.8. Dip8: N/A

1.6. **Main Input:** This is the main connector on the sound card where power, inputs, and sound output will come from. See Connections section for detailed pinout.

2. Connections:

2.1. The main connector has 16 pins. Provided is a 2 foot multicolor pigtail of wire. These are the power and function inputs as well as sound outputs. Note the pin order and orientation below:



2.2. **Pin 1: Throttle input:** a 0-5V signal should be applied to this input for prime mover sounds.

2.3. **Pin 2: Horn input:** Grounding this input will play the horn sound

2.4. **Pin 3: Bell input:** Grounding this input will play the bell sound

2.5. **Pin 4: Volume up:** This input depends on Dip switch 1 and the volume jumper. In Potentiometer mode apply a 0-5V signal to this pin to control the output volume 0-100%.

In Toggle up/down mode, ground this pin momentarily to increase the volume one step. Continuing to ground this connection will result in stepping the volume up once every ¼ second until the input is released.

2.6. **Pin 5: Volume down:** In Toggle up/down mode, ground this pin momentarily to decrease the volume one step. Continuing to ground this connection will result in stepping the volume down once every ¼ second until the input is released. This pin is disabled in potentiometer mode.

2.7. **Pin 6: Mute:** Grounding this pin will begin the locomotive startup sequence. This pin must remain connected to ground (Battery -) for as long as sound is intended to be played. Removing this pin from ground will result in playing the shutdown sequence and then going into idle state. Some air pop and other random noises may still play.

2.8. **Pin 7:** Optional extra function (Default “Load”)

2.9. **Pin 8:** Optional extra function (Default “Brake set”)

2.10. **Pin 9:** Ground input: This is the Battery - (minus) power input

2.11. **Pin 10: 12V input:** This is the Battery + (plus) power input. Connect to no more than 14V DC and no less than 9V DC

2.12. **Pin 11: +5V output:** Use this to supply the high side of your throttle and volume potentiometers.

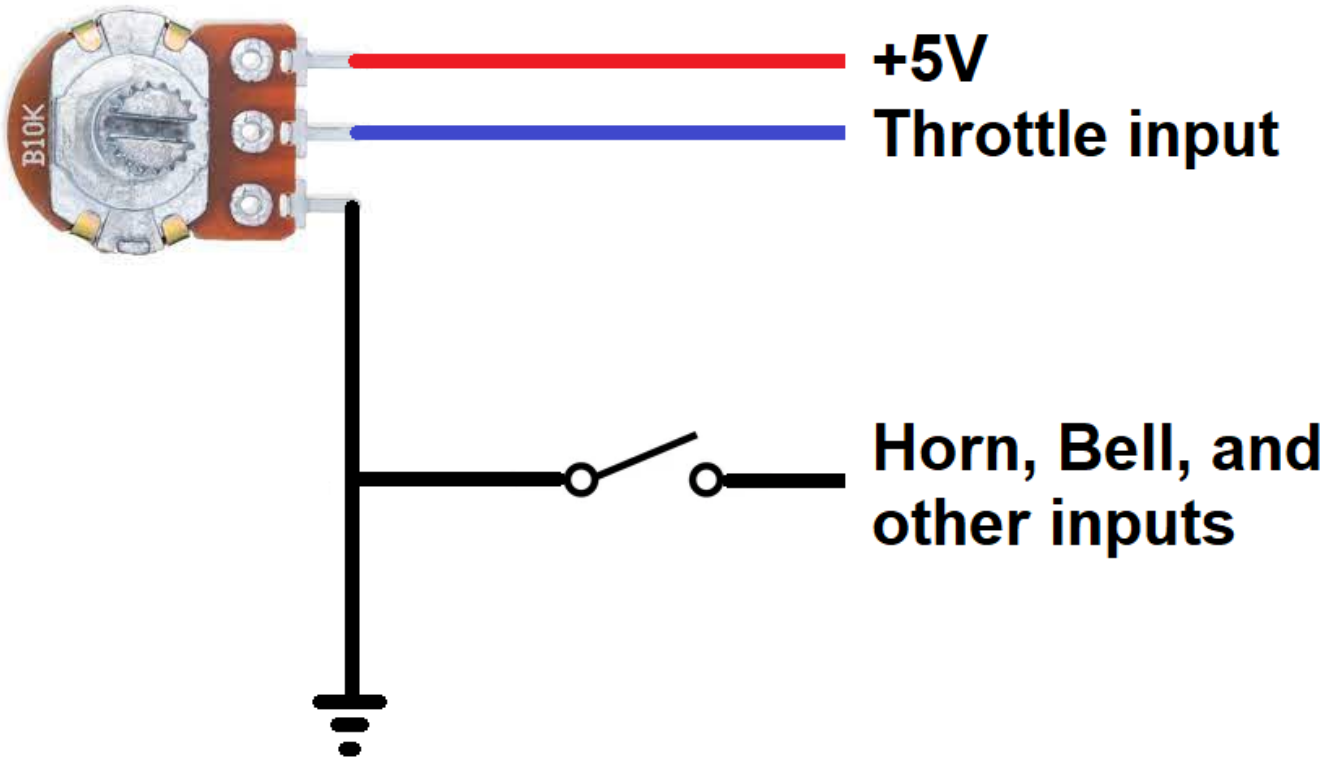
2.13. **Pin 12:** Chuff sensor input #1

2.14. **Pin 13:** Chuff sensor input #2

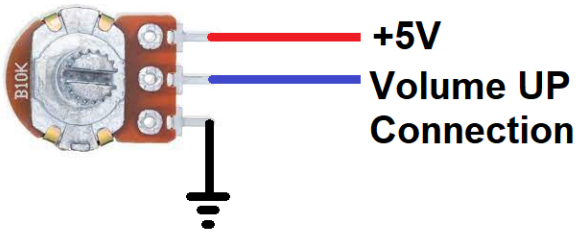
2.15. **Pin 14:** Chuff sensor input #3

2.16. **Pin 15:** Speaker output +

2.17. **Pin 16:** Speaker output -

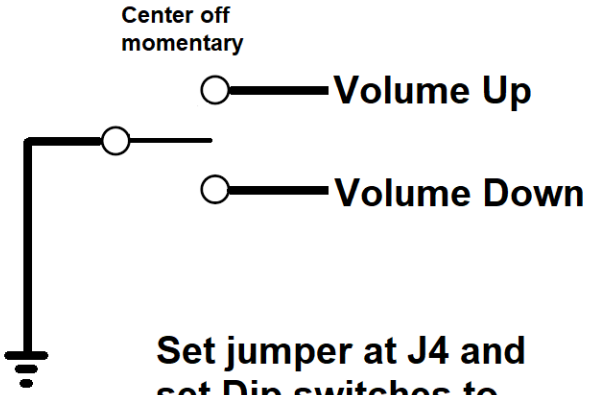


using a potentiometer for volume



remove jumper on J4 and set Dip switches to pot volume mode

Using an up/down switch for volume



Set jumper at J4 and set Dip switches to toggle volume mode