Computer Interface

Advanced Users' Guide

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Welcome

Dear Model Railroading Friends,

Welcome to the new world of computer configurable railroad sound systems. Now you can extensively customize your system with a little help from your PC. In the past customizing involved jumper wires or exchanging memory chips. Many customer requests involved custom sound chips. Now most of the things you have asked for you can do yourself, and hear the results of changes as they are made.

It has been a long journey (longer than we ever imagined!) to get this far and the rails still stretch far into the future. Thanks for climbing on board! We are driven by your comments and feedback. We love the praise (of course), but it's your suggestions and criticism that moves us forward and makes us better.

This manual matches the Phoenix Sound Systems Communications Software and Sound Library CD version 6.2 or newer.

We wish the best for you.

Happy Listening!

Introductory Notes

The sliders and drop down menus that control a particular sound or feature are collected under an identifying icon. For example, when you click on the bell icon a window opens containing the controls associated with the bell.

The icons that appear depend upon which sound is loaded. The available controls under a particular icon may vary from one sound to another, depending upon availability. The level setting will also effect what controls show up when you click on a particular icon.

You can always return to the factory default settings if you wish. To do this, simply load the original ROM file into the sound board.

The controls for each group are listed by level. The levels are Basic (Volumes), Intermediate (Volume & Assignments) and Advanced (Everything). Each listing contains a description of the control.

Volume Controls - Every sound has a volume control. Volumes range from 0 - 150%. 100% is the original recorded level. To turn off a sound, simply sets its volume to 0.

Pins - Sounds can be activated by connecting the associated trigger terminal to ground. The 2K2 has 6 trigger pins, terminals 10 through 15. Terminal 10 is shared with the computer interface but will function as a normal trigger when you are not connected to a computer. Terminal 16 is a common ground. The P5 has 2 trigger pins, C2 pins 2 & 4 (C2 pins 1 & 3 are grounds). Most sounds have an auto play option which can be selected by itself or in conjunction with a trigger terminal.

DCC - Functions range from F1 to F15 on the 2K2 system and F1 to F20 with the P5. Addresses are from 1 to 9999; the factory default address is 3. The address can also be programmed the same way you program your locomotive decoder. You will have to send the command twice if you are using a programming track. The first time will wake the sound system up, then before the system shuts off send the address again and the sound system will accept the new address. The P5 system also supports several DCC CVs - see the P5 handbook for more information.

Phoenix sound systems do not support programming on the main track. If you attempt to program either a P5 or 2K2 on the main you will set the system to a random address. You will then need to use the computer interface to re-address the unit.

General Controls

BigSound™ System

This contains general adjustments that effect the overall sound and operation of the system. Overall Volume, DC Start, DC Rate, Shutoff Time, etc. are contained here.

Terminal

The information regarding terminals and which sounds they are assigned to trigger are found here. Whether a trigger is active high or low is also selected here. The speed trigger is also set here.

DCC

A summary of what sounds and features are attached to the various functions. You can select whether the function matches a latched or momentary button. DCC Address, Speed and Rate are also set here.

Effects

Tunnel & Doppler controls, Drifting, Rev up, Dynamic Brake and Working features may also be found here.

Bell

The bell sound is controlled here, including bell volume, trigger and stopping bell speed to name a few.

Horn/Whistle

Horn/Whistle effects are controlled here. Triggers, volume, horn/whistle type and play speed are some of the features you may control.

Coupler

Coupler volume, trigger, play speed and more are set here.

Brake

Volume, Triggers for: wheel squeal, brake release, brake screech, and dynamic brake sounds are some that may be set here.

Basic

Current Volume: The percent of the recorded volume at which all sounds play.

Start Voltage: The voltage at which the engine starts to move, units of 0.1volt

Rate - Speed vs. Volts: The percentage of 12 Volts that produces maximum speed.

Intermediate

Shutdown Pin: Selects a trigger source

Shutdown DCC: Selects a DCC trigger source

Track Voltage Filter: This control adjusts the amount of filtration on the track voltage inputs.

Advanced

Maximum Volume: The maximum percent of the recorded volume that can be obtained with the volume switch.

Maximum Current (2K2): The maximum current draw, in mA.

Peak Speaker Wattage (P5): The maximum power output to the speaker.

Shutoff Delay: Seconds until the board shuts off after track volts = 0.5V.

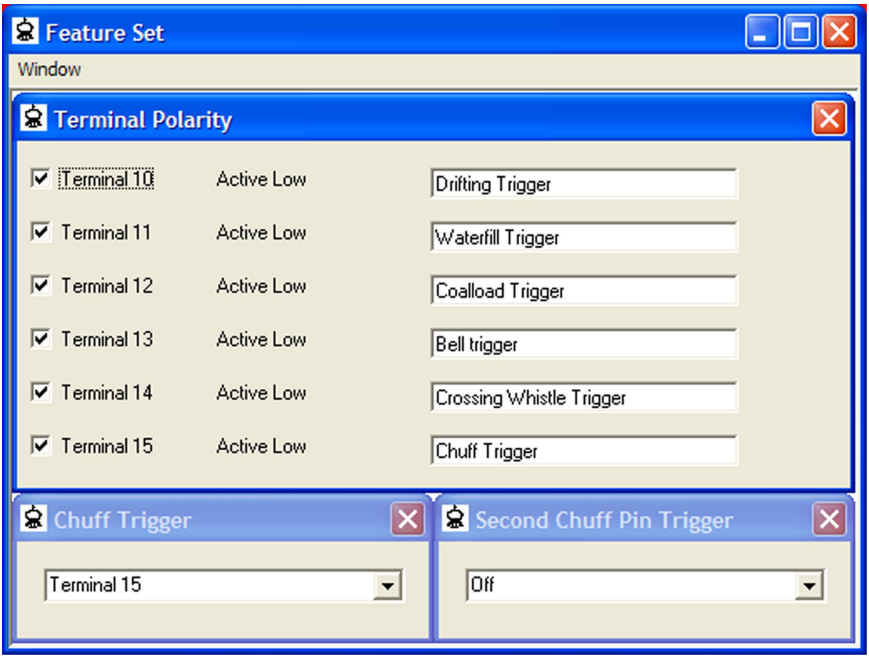
Track Polarity: Normal means Forward is when Pin 1 voltage is greater than Pin 2.

Demo Mode(2K2): cycles through sounds when stationary.

Terminals

The check boxes determine how the input is treated - whether it should be 'on' when the input is low (grounded) or high (above 2.5 volts).

Connections are summarized in this screen. Clicking the check boxes has the same effect as triggering the input because it changes the sense of the input.



Chuff Pin(Steam): Selects a trigger source.

Second Chuff Pin(Steam): Selects a trigger source.

Speed Pin(Diesel): Selects a trigger source. The "Auto & Terminal" Option will use voltage for engine control until a trigger occurs, and then use the trigger derived speed.

DCC

Basic

DCC Address: Select a DCC Address, 0 will disable DCC.

Speed from DCC: Speed determined from DCC commands.

DCC Mode Start Setting: The DCC Speed at which the engine starts to move.

DCC Mode Rate Setting: The speed multiplier in DCC mode. 100% means 12 triggers/second at a DCC speed of 25 above the start setting.

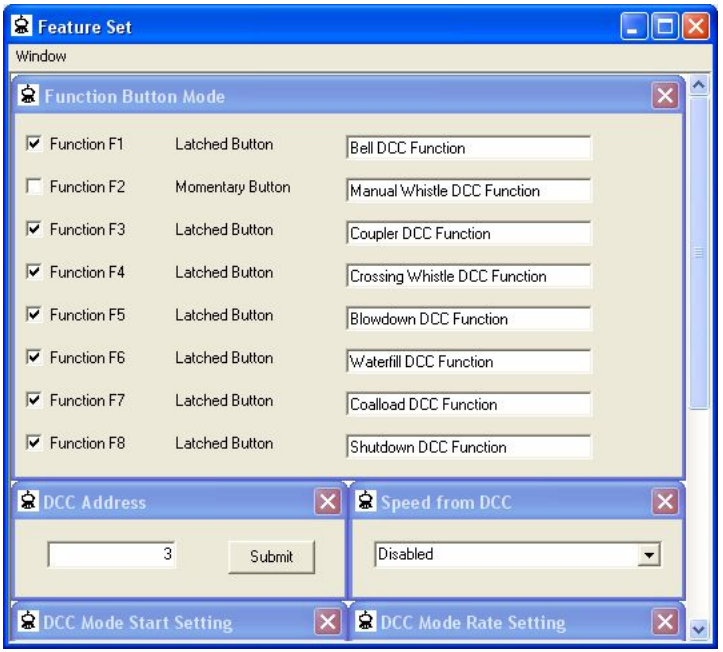
Volume Up DCC: Selects a DCC function to raise the volume.

Volume Down DCC: Selects a DCC function to lower the volume.

Advanced

MTS Detection: Selects whether MTS style decoders are automatically detected.

DCC Timeout: The amount of time the decoder will remain in its current state when DCC signal is lost. 0 is no timeout.



The above screen summarizes the DCC function assignments and the type of trigger - momentary or latched - that the system is watching for.

Effects

Common

Basic

Tunnel Volume: The percent of the recorded volume when tunnel mode is triggered.

Intermediate

Tunnel Volume Pin: Selects a trigger source.

Tunnel Volume DCC: Selects a DCC trigger source.

Doppler Pin: Selects a trigger source.

Doppler DCC: Selects a DCC trigger source

Advanced

Tunnel Volume Fade Rate: This control sets the rate of fade to/from the tunnel volume.

Diesel

Basic

Dynamic Brake Volume: The percent of the recorded volume at which the dynamic brake plays.

Engine Working Volume: The percent of the recorded volume at which the engine sound plays when working mode is triggered

Intermediate

Rev Up Pin: Selects a trigger source.

Rev Up DCC: Selects a DCC trigger source.

Dynamic Brake Pin: Selects a trigger source.

Dynamic Brake DCC: Selects a DCC trigger source.

Working Pin: Selects a trigger source.

Working DCC: Selects a DCC trigger source.

Steam

Intermediate

Drifting Pin: Selects a trigger source.

Drifting DCC: Selects a DCC trigger source.

Notes

Tunnel Volume reduces the volume of all sounds. This is useful when going into a mountain or the backside of a layout when the sound should be less dominant. You may also use this as a mute function by setting the tunnel volume to 0.

Doppler works differently for diesel and steam. On steam it alters the pitch of the chuff as if the locomotive were approaching and then going away. On diesel the horn pitch is shifted as if the locomotive were rushing towards you and then past you. Doppler is speed sensitive. If you are going slow the effect will be hard to notice. For the manual diesel horn, the Doppler effect comes in if you hold the horn button for longer than 5 seconds.

Rev Up causes the motor to go from idle to notch 1. Notch 1 will be the lowest RPM until Rev Up is triggered again to turn it off and allow the RPMs to fall back to idle.

Bell

Basic

Bell Volume: The percent of the recorded volume at which the bell plays.

Intermediate Level

Bell Pin: Selects a trigger source.

Bell DCC: Selects a DCC trigger source.

Advanced Level

Bell Trigger Mode: Selects the mode of the bell when triggered, either Manual or Programmed.

Bell Type: Selects the type of bell sound - Mechanical or Hand rung.

Stopping Bell Speed: The speed at which the stopping bell plays.

Stopping Bell Duration: Controls how long the bell plays when stopping, in seconds.

Startup Bell Duration: Controls how long the bell plays when starting, in seconds.

Triggered Bell Duration: Controls how long the programmed bell plays when triggered, in seconds.

Auto Bell Speed Limit: The speed at which the automatic bell stops playing.

Notes

In Programmed mode the bell plays for a set duration when triggered. In Manual mode the bell plays until the trigger is released if the trigger is held longer than two bongs. If triggered for less than two bongs the bell latches on until triggered again. The bell does not auto play more frequently than every 30 seconds.

Horn/Whistle

Basic

Horn/Whistle Volume: The percent of the recorded volume at which the horn/whistle plays.

Intermediate

Crossing Horn/Whistle Pin: Selects a trigger source.

Crossing Horn/Whistle DCC: Selects a DCC trigger source.

Manual Horn/Whistle Pin: Selects a trigger source.

Manual Whistle DCC: Selects a DCC trigger source.

Advanced

Crossing Horn/Whistle Speed: The speed at which the crossing signal plays.

Fwd Horn/Whistle Volume: The percent of the horn/whistle volume at which the forward toots play.

Rev Horn/Whistle Volume: The percent of the horn/whistle volume at which the reverse toots play.

Stopping Horn/Whistle Volume: The percent of the horn/whistle volume at which the stopping toot plays.

Coupler

Basic

Coupler Volume: The percent of the recorded volume the coupler plays.

Intermediate

Coupler Pin: Selects a trigger source.

Coupler DCC: Selects a DCC trigger source.

Advanced

Coupler Play Speed: The speed, which must be met backing up, at which this sound plays.

Notes

The coupler sound plays when you stop backing up if the speed window is met. A forward movement is needed before the coupler clank will play again.

Brake

Basic

Brake Screech Volume: The percent of the recorded volume at which the brake screech plays.

Brake Release Volume: The percent of the recorded volume at which the brake release plays.

Wheel Squeal Volume: The percent of the recorded volume at which the wheel squeal plays.

Intermediate

Brake Screech Pin: Selects a trigger source.

Brake Screech DCC: Selects a DCC trigger source.

Brake Release Pin: Selects a trigger source.

Brake Release DCC: Selects a DCC trigger source.

Wheel Squeal Pin: Selects a trigger source.

Wheel Squeal DCC: Selects a DCC trigger source.

Advanced

Brake Screech Speed: The speed at which the brake screech plays.

Brake Release Speed: The speed at which the brake release plays.

Steam Controls

The following sounds are generally associated with steam locomotives. Not all features are present in every steam sound set.

Chuff

This effects the chuff sound, including volumes, pitch and other features.

Chuff Mode

The effects applied to the chuff sound, including mode, hits and other features.

Air Pump

The features for the air pump and air pump 2 can be found here, including volume and repetition control.

Hiss

Volume, slowdown and cutoff of the Hiss are found here.

Coal Loading

Volume, triggers and mode of the coal loading effect can be set here.

Water Fill

Fill time, mode and volume of the water fill are set here, along with triggers.

Fireman

The fireman is responsible for the coal shoveling, from volume to delay and triggers. Depending on your steamer, he can be one hard working fella! You will not find the fireman on modern locomotives, which were auger fed nor on the oil-burners like the Cab Forward.

Rod Clank

Volume for the Rod Clank effect is set here.

Generator

Noise level, volume and run time of your generator are controlled from here.

Pop Off

Volume, Triggers, Blowdown and steam release are all under the Pop Off Icon.

Chuff

Basic

Chuff Maximum Volume: The maximum percent of the recorded volume at which the chuff plays after all special effects are applied.

Chuff Minimum Volume: The minimum percent of the recorded volume at which the chuff plays after all special effects are applied.

Intermediate

Johnson Bar Level: Amount of Chuff volume reduction caused by slowing down. 0 is no change, 100% is about 1/2 volume

Light Chuff 1 - 4 Volume: The percent of the recorded volume at which light chuff # plays before any special effects are applied.

Heavy Chuff 1 - 4 Volume: The percent of the recorded volume at which heavy chuff # plays before any special effects are applied.

Advanced

Chuff Volume Ramp Rate: Controls the rate the volume of the chuffs fade in.

Johnson Bar Rate: How fast the reduction occurs.

Minimum Chuff Time: This sets the minimum time between chuffs, in mS.

Working Chuff Mix: The amount of light chuff mixed in when not drifting.

Drifting Chuff Mix: Chuff mixture when drifting.

Mixed Chuff Rate: The transition rate into and out of drifting.

Chuff Volume Randomization: Controls the amount of chuff volume randomization.

Base Chuff Pitch: This control sets the base pitch of the chuff.

Chuff Pitch Start: Controls the speed where the chuff pitch begins to change.

Chuff Pitch Rate: Controls the amount the chuff pitch increases as the engine speeds up.

Chuff Pitch Randomization: Controls the amount of randomization of the chuff pitch.

Chuff Compression Start: Controls the speed at which the chuff compression starts.

Chuff Compression Rate: Controls the amount the chuff compression as the engine speeds up.

Chuff Mode

Basic

Chuff Hits: This control sets how many chuffs each input trigger produces.

Double Chuff Pin: Selects a trigger source.

Double Chuff DCC: Selects a DCC trigger source.

Canyon Chuff Volume: The percent of the chuff volume at which the canyon chuff effect plays.

Intermediate

Canyon Chuff Pin: Selects a trigger source.

Canyon Chuff DCC: Selects a DCC trigger source.

Advanced

Chuff Averaging: Useful when the chuff triggers are not evenly spaced.

Chuff Mode: Selects the chuff mode.

Double Chuff Sweep Rate: This control sets the sweep rate for double chuffs.

Three Chuff Mode: Used on certain three cylinder engines.

Notes

Double Chuff simulates two locomotives or a simple articulated locomotive where there is a second set of chuffs wandering in and out of phase with the primary set of chuffs.

Canyon Chuff adds variability to the chuff pitch and volume so the locomotive sounds like it is moving through terrain that effects the sound of the chuff.

Air Pump

Basic

Air Pump Volume: The percent of the recorded volume the air pump plays.

Air Pump 2 Volume: The percent of the recorded volume air pump 2 plays.

Intermediate

Air Pump Pin: Selects a trigger source.

Air Pump DCC: Selects a DCC trigger source.

Air Pump 2 Pin: Selects a trigger source.

Air Pump 2 DCC: Selects a DCC trigger source.

Advanced

Air Pump Interval: This control sets the period between air pump cycles.

Air Pump 2 Interval: This control sets the period between air pump cycles.

Air Pump 2 Duration: This control sets the length of the air pump 2 cycle.

Notes

Air Pump 2 is a longer running air pump; it would play after braking had used up the air reserve. Air pump 2 in auto is triggered by a drop in voltage. Air pump 1 is mainly for keeping the air reserve "topped off." It cycles periodically in idle.

Coal Loading

Basic

Coal Loading Volume: The percent of the recorded volume at which the coal loading plays.

Intermediate

Coal Loading Pin: Selects a trigger source.

Coal Loading DCC: Selects a DCC trigger source.

Advanced

Coal Loading Trigger Mode: Selects the mode of the coal loading when triggered - manual or programmed.

Coal Loading Duration: This control sets the time the programmed coal loading sound will play.

Water Fill

Basic

Water Fill Volume: The percent of the recorded volume at which the water fill plays.

Intermediate

Water Fill Pin: Selects a trigger source.

Water Fill DCC Function: Selects a DCC trigger source.

Advanced

Water Fill Mode: Selects the mode of the water fill when triggered, programmed or manual.

Water Fill Duration: This control sets the time the programmed water fill sound will play.

Fireman

Basic

Coal Shovel Volume: The percent of the recorded volume at which the coal shoveling plays.

Intermediate

Coal Shovel Pin: Selects a trigger source.

Coal Shovel DCC: Selects a DCC trigger source.

Advanced

Coal Shovel Interval: Controls the amount of time between coal shoveling cycles, in seconds.

Coal Shovel Duration: Controls the length of time the coal shoveling plays.

Generator

Basic

Generator Volume: The percent of the recorded volume at which the generator plays.

Noise Volume: The percent of the recorded volume at which the background engine noise plays.

Intermediate

Generator Pin: Selects a trigger source.

Generator DCC: Selects a DCC trigger source.

Advanced

Generator Run Time: This control sets the maximum time the generator will run at idle, in seconds.

Rod Clank

Basic

Rod Clank Volume: The percent of the recorded volume the rod clank plays.

Pop Off

Basic

Blowdown Volume: The percent of the recorded volume at which the blowdown plays.

Steam Release Volume: The percent of the recorded volume at which the steam release plays.

Intermediate

Blowdown Pin: Selects a trigger source.

Blowdown DCC: Selects a DCC trigger source.

Steam Release Pin: Selects a trigger source.

Steam Release DCC: Selects a DCC trigger source.

Advanced

Blowdown Speed: The speed at which the blowdown plays.

Hiss

Basic

Hiss Volume: The percent of the recorded volume at which the hiss plays.

Advanced

Slowdown Hiss: Selects whether the hiss plays when the engine slows down.

Hiss Cut Off Speed: The speed above which the hiss sound will not play.

Diesel Controls

The following sounds are generally associated with diesel. Not all icons and features are present in every sound set and some may also be present in steam or other sound sets.

Prime Mover/ Electric Motor

This effects the motor sound, including: Idle, Idle Volume, Revs, Speed changes and more.

Fan

The features for the fan can be found here, including volume for whine, idle whine, speeds 1-8 and rising/falling whines.

Notches

Sets the Rev Shift Points.

Air Pop

Volumes and trigger assignments for sounds that play in idle.

Prime Mover / Electric Motor

Basic

Engine Volume: The percent of the recorded volume at which the engine rev sound plays.

Idle Sound Volume: The percent of the recorded volume at which the idle sound plays.

Advanced

Idling Engine Rev Volume: The percent of the engine rev volume at which the rev sound plays when idling.

Speed 1 - 8 Engine Rev Volume: The percent of the engine rev volume at which the rev sound plays when at speed 1-8.

Rev Falling Volume: The percent of the engine rev volume at which the rev sound plays when decreasing speed levels.

Rev Rising Volume: The percent of the engine rev volume at which the rev sound plays when increasing speed levels.

Enter Idle Volume: The percent of the engine rev volume at which the rev sound plays when going from speed 1 into idle.

Leave Idle Volume: The percent of the engine rev volume at which the rev sound plays when going from idle into speed 1.

Engine Momentum: The speed at which the engine changes speed.

Fan

Basic

Master Volume: The percent of the recorded volume at which the sound plays.

Advanced Mode

Idling Volume: The percent of the volume at which the sound plays when at idle.

Speed 1 - 8 Engine Whine Volume: The percent of the volume at which the sound plays when at speed 1-8.

Falling Volume: The percent of the volume at which the sound plays when decreasing speed levels.

Whine Rising Volume: The percent of the volume at which the sound plays when increasing speed levels.

Notches

Basic

Speed 1 - 8 Rising: The point at which the diesel will rev down into the lower notch.

Speed 1 - 8 Falling: The point at which the diesel will rev up into the next notch.

Air Pop

Basic

Air pop Volume: The percent of the recorded volume at which the air pop plays.

Intermediate

Air Pop Pin: Selects a trigger source.

Air Pop DCC: Selects a DCC trigger source.

Advanced

Air pop Repeat Interval: This control sets the time, in seconds, between air pop cycles.

Electric and Trolley Controls

The following sounds are generally associated with electric locomotives, trolleys and streetcars. Not all icons and features are present in every sound set and some may also be present in steam or other sound sets.

Track Noise

Volumes for the various track noise features are found here.

Electrical

Fill time, mode and volume of the electrical system, including vacuum pump and switch volumes.

Pantograph

The pantograph rising and lowering volumes as well as trigger can be found here.

Compressor

Volume, loop time, repetitions and triggers for the compressor are controlled here.

Door

Volumes, Delays and triggers for door noises are found here.

Pole

The reversing sounds, triggers and DCC functions for trolleys and streetcars can be found here.

Fare Box

The fare bell can be found here.

Track Noise

Basic

Track Noise Volume: The percent of the recorded volume at which the track noise plays.

Advanced

Track Noise Start Speed: The speed at which the track noise will begin playing.

Track Noise Compression: The amount of time compression on the track noise.

Electrical

Basic

Volume: The volume at which the reversing sounds play.

Intermediate

Direction Switch Pin: Selects a trigger source.

Direction Switch DCC: Selects a DCC trigger source.

Direction Switch Pin 2: Selects a trigger source.

Direction Switch DCC 2: Selects a DCC trigger source.

Pantograph

Basic

Volume: The volume at which the pantograph sounds play.

Intermediate

Pantograph Pin: Selects a trigger source.

Pantograph DCC: Selects a DCC trigger source.

Pantograph Pin 2: Selects a trigger source.

Pantograph DCC 2: Selects a DCC trigger source.

Compressor

Basic

Compressor Volume: The percent of the recorded volume at which the compressor plays.

Intermediate

Compressor Pin: Selects a trigger source.

Compressor DCC: Selects a DCC trigger source.

Advanced

Compressor Repeat Time: This control sets the time, in seconds, between compressor cycles.

Compressor Duration: Sets the time, in seconds, the compressor plays.

Door Slam

Basic

Door Slam Volume: The percent of the recorded volume at which the sound plays.

Intermediate

Door Slam Pin: Selects a trigger source.

Door Slam DCC : Selects a DCC trigger source.

Advanced

Delay after Idle: Seconds after stop when the sound plays.

Pole

Basic

Volume: The volume at which the trolley pole sounds play.

Intermediate

Pole Pin: Selects a trigger source.

Pole DCC: Selects a DCC trigger source.

Pole Pin 2: Selects a trigger source.

Pole DCC 2: Selects a DCC trigger source.

Fare Box

Basic

Fare Bell Volume: The percent of the recorded volume at which the Fare Bell plays.

Intermediate

Fare Bell Pin: Selects a trigger source.

Fare Bell DCC: Selects a DCC trigger source.

Advanced

Fare Bell Repeat Interval: This control sets the time, in seconds, between Fare Bell cycles.

Goose Controls

The following sounds are generally associated with the Gallopin' Goose.

Goose Engine

The features for the fan can be found here, including volume for whine, idle whine, speeds 1-8 and rising/falling whines.

Instrument Panel

Volume, trigger and cycle of the Air Pop are found here.

Goose Engine

Basic

Goose Engine Volume: The percent of the recorded volume at which the sound plays.

Idle Sound Volume: The percent of the recorded volume at which the sound plays.

Intermediate

Gear 1-3 Volume: The percent of the engine volume at which the engine sound plays in 1st - 3rdgear.

Engine Shift 1-3 Volume: The percent of the engine volume at which the engine sound plays during shift 1-3.

Instrument Panel

Basic

Maximum Engine Speed: Sets the maximum engine speed as a percentage of the recorded speed.

Intermediate

Shift 1-3 Volume: The percent of the recorded volume at which the shifting sound plays in 1st - 3rd gear

Specialty Controls

This section refers to the sounds that not found elsewhere. Not all icons and features are present in all special sound sets.

Station Announcements

This effects the motor sound, including: Idle, Idle Volume, Revs, Speed changes and more.

Rotary

Fill time, mode and volume of the electrical system, including vacuum pump and switch volumes.

Rotary Engine

Fill time, mode and volume of the electrical system, including vacuum pump and switch volumes.

Track Noise

The sounds of the locomotive on track.

Motion

Fill time, mode and volume of the electrical system, including vacuum pump and switch volumes.

Rack Noise

Volume, reverse and rack chuff counters are controlled here.

Ambience

Miscellaneous environmental sounds, triggers and DCC functions can be found here.

Station Announcement

Basic

Station Announcement Volume: The percent of the recorded volume at which the station announcement sound plays

Intermediate

Station Announcement Pin: Selects a trigger source.

Station Announcement DCC: Selects a DCC trigger source.

Rotary

Basic

Snow Blade Volume: The percent of the recorded volume at which the snow blade sound plays.

Advanced

Idling Snow Blade Volume: The percent of the snow blade volume at which the snow blade sound plays when at idle.

Speed 1 - 8 Snow Blade Volume: The percent of the snow blade volume at which the snow blade sound plays when at speed 1-8.

Snow Blade Falling Volume: The percent of the snow blade volume at which the snow blade sound plays when decreasing speed levels.

Snow Blade Rising Volume: The percent of the snow blade volume at which the snow blade sound plays when increasing speed levels.

Rotary Engine

Basic

Engine Volume: The percent of the recorded volume at which the engine sound plays.

Idle Sound Volume: The percent of the recorded volume at which the idle sound plays.

Advanced

Speed 1 - 8 Engine Volume: The percent of the engine volume at which the engine sound plays when at speed 1-8.

Engine Falling Volume: The percent of the engine rev volume at which the rev sound plays when decreasing speed levels.

Engine Rising Volume: The percent of the engine rev volume at which the rev sound plays when increasing speed levels.

Engine Stopping Volume: The percent of the engine rev volume at which the rev sound plays when going from speed 1 into idle.

Engine Starting Volume: The percent of the engine rev volume at which the rev sound plays when going from idle into speed 1.

Engine Momentum: The speed at which the engine changes speed.

Idling Engine Volume: The percent of the engine volume at which the engine sound plays when at idle.

Track Noise

Basic

Track Noise Volume: The percent of the recorded volume at which the click clack sound plays.

Advanced

Idling Track Noise Volume: The percent of the click clack volume at which the click clack sound plays when at idle.

Speed 1 - 8 Track Noise Volume: The percent of the click clack volume at which the click clack sound plays when at speed 1-8.

Track Noise Falling Volume: The percent of the click clack volume at which the click clack sound plays when decreasing speed levels.

Track Noise Rising Volume: The percent of the click clack volume at which the click clack sound plays when increasing speed levels.

Track Noise Stopping Volume: The percent of the click clack volume at which the click clack sound plays when going from speed 1 into idle.

Track Noise Starting Volume: The percent of the click clack volume at which the click clack sound plays when going from idle into speed 1.

Engine Momentum: The speed at which the engine changes speed.

Motion

Basic

Track Noise Volume: The percent of the recorded volume at which the track noise sound plays.

Advanced

Idling Track Noise Volume: The percent of the track noise volume at which the track noise sound plays when at idle.

Speed 1 Track Noise Volume: The percent of the track noise volume at which the track noise sound plays when at speed 1.

Speed 2 - 8 Track Noise Volume: The percent of the track noise volume at which the track noise sound plays when at speed 2-8.

Track Noise Falling Volume: The percent of the track noise volume at which the track noise sound plays when decreasing speed levels.

Track Noise Rising Volume: The percent of the track noise volume at which the track noise sound plays when increasing speed levels.

Rack Noise

Basic

Rack Volume: The percent of the recorded volume the rack noise plays.

Reverse Rack Volume: The percent of the recorded volume at which the sound plays in reverse.

Intermediate

Rack Pin: Selects a trigger source.

Rack DCC: Selects a DCC trigger source.

Advanced

Rack Start Speed (Electric): The speed at which the rack will begin playing.

Rack Compression (Electric): The amount of time compression on the rack sound.

Rack Chuff Counter (Steam): This control sets the number of chuffs between the rack sounds.

Ambience

Basic

Cricket Volume: The percent of the recorded volume at which the crickets play.

Intermediate

Cricket Pin: Selects a trigger source.

Cricket DCC: Selects a DCC trigger source.

Tips & Hints

Saving Configurations

As you make adjustments to your sound board, the new values overwrite the old values and there is no undo. If you have a configuration that you like and might want to go back to it you should save it. To save your current configuration, choose **Save** from the File menu, select **Configuration Only**, name your file, hit **Open**.

Powering the sound system

In order to communicate, the sound board must be on (power to terminals 1 and 2). This sometimes presents a problem, as the train may want to move when the sound board is on. A motor cut off switch is useful for lengthy sessions. For short sessions, you can keep the board alive with a small track voltage and run off the battery. This will work for about 15 minutes with a fully charged battery. If you installed in a tender or boxcar, you can simply set it on the track.

Communications Errors common causes

- Check that your cables are connected.
- The power supply may be inadequate (notably starter set power supplies) - your power supply should provide at the minimum 30V/A.
- Your PC's FIFO buffers may need to be increased - to do this in Windows right-click on My Computer and select Properties, then select Device Manager. Highlight your COM port in the list and click Properties. Click the Port Settings tab then the Advanced button. Use FIFO Buffers should be checked and both sliders should be set to maximum.

Cable Length

The Phoenix Computer Interface Cable is 6 feet long and we do not recommend using extensions on the 2.5mm Mini Plug end. You can, however, add RS232 (serial) cable extensions between the computer and the Interface cable. Extensions should be no more than 25 feet.

Configuring for Manual Sound

The latest version of the Phoenix software allows the programmed and the manual whistle to be available simultaneously on different triggers. To configure the system for complete manual operation do the following:

First, turn off the programmed horn/whistle and turn on the manual horn/whistle. To do this click on the horn/whistle icon and find the crossing whistle/horn trigger. Change this from “auto and terminal 14” to “Off”. Go to the manual whistle/horn trigger and change this from “Off” to “terminal 14”. If you also want to eliminate the automatic forward, reverse and stop signals, set their respective volumes to zero.

Next, modify the Bell settings. The “Bell Trigger Mode” should be set from programmed to manual. The “Bell Trigger” should be set from “auto and terminal 13” to “terminal 13”.

Now your BigSound™ system is completely under your control.

Locolinc® & LGB MTS Configurations

Locolinc®

When connecting to a Locolinc® system, the trigger inputs need to be switched from active low to active high. This is done through the check boxes in the “terminals” menu. You will only need to change the input settings for the triggers you connect to the Locolinc® unit, typically the whistle and bell are chosen. We also suggest that you run the system in real time mode rather than programmed responses for the whistle and bell with Locolinc®.

LGB MTS

LGB’s Multi-Train System and the BigSound™ work well together, however for button assignments that are consistent with LGB’s, a few of the functions should be reassigned. Please make sure that you remove a feature from a function before adding one to it. Our recommended MTS function assignments are:

F1 Whistle
F2 Brake
F3 Bell
F4 Coal Shoveling
F5 Coupler Clank
F6 Water Fill
F7 Coal Load
F8 Shutdown (Sound On/Off)