



WOWSound

Electric Version 1

Programming Guide











3-1-2018



This manual covers the setup and configuration of the Sound Components of the WOWSound Electric decoder. All NMRA, Lighting, and Motor Control programming is covered in the **TCS Comprehensive Programming Guide** available for download at:


www.tcsdcc.com

Table of Contents

Button Mappings	4
Version Number	5
Audio Assist™  Audio Assist	6
Audio Assist™ Detailed explanations	7
Sound Programming Options.....	7
Lighting Menu	7
Motor Control Options.....	7
Other Options	8
4 CV Programming Overview	9
4 CV Write Operation.....	10
4 CV Read Operation.....	10
Random Horn Quill	11
Random Sounds	11
Random Sound 1 Frequency	11
Random Sound 2 Frequency	11
Random Sound 3 Frequency	12
Random Sound 4 Frequency	12
Random Sound Overall Timer	12
Random Sound Cutout Speed	12
Throttle Operations	13
Traction Motor Minimum Volume.....	13
DC mode operation.....	13
Automatic Sounds.....	14
Dual Mode Functions (Light & Sound Mode).....	14
User Options	15
Audio Auto Shutoff Time	15
Automatic Bell.....	15
Crew Alert	16
Crew Alert Timer	16
Crew Alert Light Function	16
Momentum	17
Switch Mode Acceleration Rate.....	17

Switch Mode Deceleration Rate	17
Mainline Mode Acceleration Rate	17
Mainline Mode Deceleration Rate	17
Resets and Presets 	18
WOWSound Brake Operation	19
Brake Grinding Sound Start Speed	19
Setting up Sounds	20
Re-Map Sounds to Function Buttons	20
Rotate Bell and Horn	20
Horn Set 	21
Bell Selection 	21
Volume Control 	21
Global Volume 	21
Sound Type Volume 	21
Individual Sound Volumes 	22
Consisting	22
Speed Matching	22

If the  logo appears after a title, that function is adjustable using Audio Assist™. It is recommended and easier to adjust these features using .

NOTE: Please view our instructional video about  on our website.

Button Mappings

Below is a table listing the default sound button mapping. WOWSound has the flexibility to have any sound mapped to any button so you can customize your throttle exactly the way you like it.

For users with limited function buttons, pushing F8 twice rotates through the “function pages.” In page one buttons 0-9 control functions 0-9; on page two buttons 0-9 control functions 10-19; and on page three buttons 0-9 control functions 20-28. In light mode the buttons control the lights

You can program what sounds/lights are active on function page 1 and light mode by programming the “dual enabled” indexed CV. For example Button 2 can play the horn and flash the ditch lights.

Function Button	Sound Feature	Lighting Feature
0		Headlight
1	Bell	Ditch lights blink
2	Horn - Long Toot	Ditch lights blink
3	Horn - Short Toot	Ditch lights on
4	ACS64 high-speed flyby “Whoosh”	
5		Ditch lights blink
6	Engine on/off	Marker Lights
7		Rule 17 (dim headlights)
8	1x Press: Mute/Unmute 2x Presses: Toggle between Function pages and light mode 4x Presses: Enter Audio Assist	
9		
10	Cooling Fan	
11	Catenary	
12	Coupler Clank Closed	
13	Coupler Clank uncouple	Not useable for lights
14	Brake Release	Not useable for lights
15	Brakes Applied	Not useable for lights
16	Switching/Mainline Momentum	Not useable for lights
17	Crew Alert	Not useable for lights
18		Not useable for lights
19		Not useable for lights
20	Horn Quill (Grade crossing)	Not useable for lights
21	Forward Sound (Two long blasts)	Not useable for lights
22	Reverse Sound (3 short blasts)	Not useable for lights
23	Stop Sound (1 long blast)	Not useable for lights
24	Rotate Bell/whistle	Not useable for lights
25	Windshield Wipers	Not useable for lights
26	Station Announcements -Departing	Not useable for lights
27	Station Announcements -Arriving	Not useable for lights
28		Not useable for lights

Random Sound 1	Air Compressor	Not useable for lights
Random Sound 2	Cooling Fan 1	Not useable for lights
Random Sound 3	Cooling Fan 2	Not useable for lights
Random Sound 4		Not useable for lights

Version Number

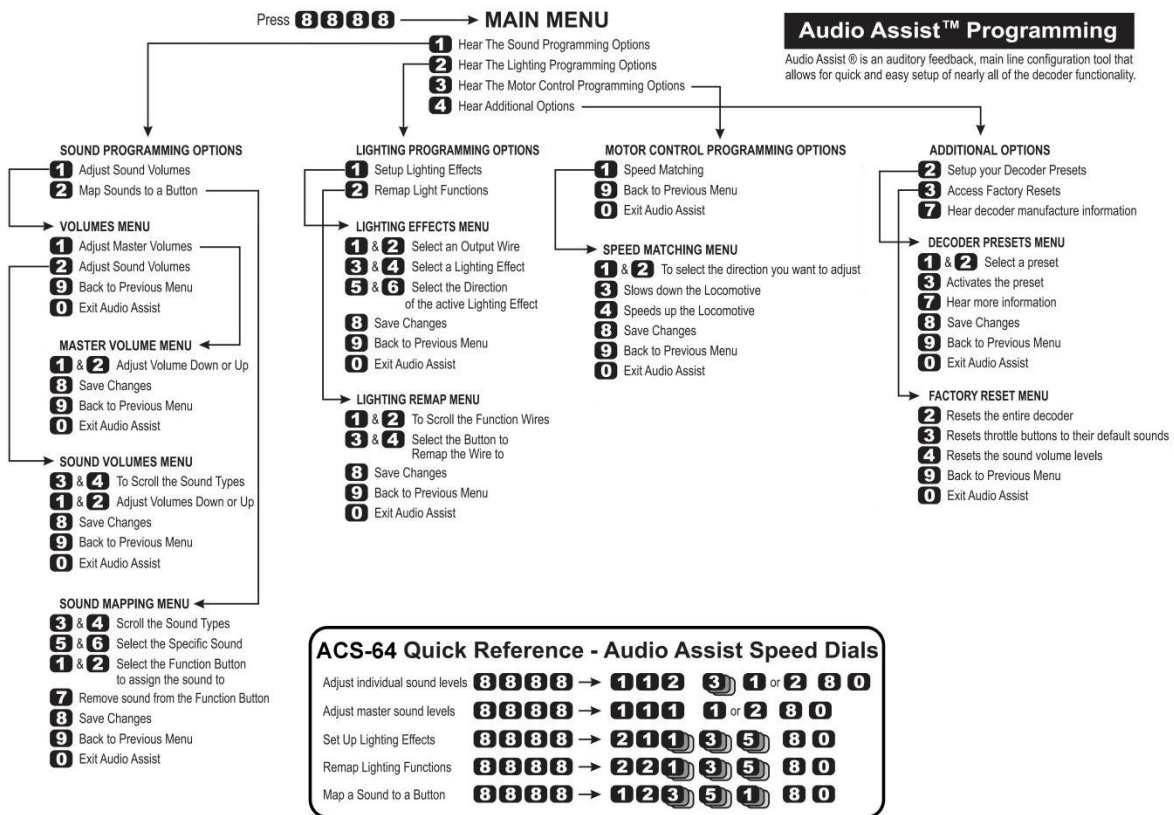
The WOWSound Version Number can be found by reading the value in CV 248. This is necessary when looking up information in the TCS WOWSound section of our website.

(Patent Pending)

is an auditory feedback, main line configuration tool that allows for quick and easy set-up of nearly all the sound functionality.

To enter , stop your locomotive on an operational track and press function button 8 in rapid succession 4 times. The decoder will start talking to you giving you a menu similar to a telephone answering machine. Just follow the verbal instructions to adjust or remap many of the sound or lighting options. When you have made a selection press 8 to save each selection and then press 0 to get “Goodbye” and exit .

NOTE: Please view our instructional video about on our website.



Audio Assist™ Detailed explanations

Sound Programming Options

Menu 1.1.1 - Master Volume

The master volume controls the volume of the entire decoder and effects all sound effects

Menu 1.1.2 Sound Type Volumes

Sound type volumes control the volume for just one type of sound, for example all bells, all horns, etc.

Menu 1.2 Mapping a Sound to a Button

This menu allows you to quickly customize your throttle. You can assign any sound to any of the 28 NMRA functions. Useful tip: Listen to the lady, don't forget to select the button you want to assign the sound to, just because you are selecting a bell doesn't mean the decoder will automatically assign it to function F1. This menu can also assign sounds to the "Random sounds" and in the WOW501 can assign a sound to play when the "triggered input" is activated.

Lighting Menu

Menu 2.1 Lighting Effects

There are 20 different lighting effects in all TCS decoders and they can be easily programmed in the WOWElectric. There are also many customization CV's that can be used to tweak the effects, change the brightness, or change the behavior of the feature, see the lighting section for more info.

Menu 2.2 Light Function Remapping

Choose which function button controls which lighting effect. Functions 0-12 can be used.

Note – lights are only active in "light mode" (press F8 twice to change between light mode and sound mode). You can also "dual enable" functions so that they are always active using indexed CV14, the "dual enabled functions" CV.

Motor Control Options

Menu 3.1 Speed Matching

Speed matching is useful when consisting to get the locomotives to play nicely together and not work against each other. On this menu you can speed up or slow down the speed of an engine linearly across its entire speed curve. You can also do it in real time as the engine is running so you can see the changes instantly.

Note: Behind the scenes the decoder is using the "trim" feature to do this by adjusting CV's 66 and 95.

Other Options

Menu 4.2 User Presets

User presets are like an alternate factory reset that you can setup. There are three presets to choose from. Each preset saves all decoder settings, including motor settings, sound settings, lighting setup, and volumes. All CV's both indexed and standard are saved in the preset. A use case would be to keep track of your settings; say you customize your engine and get it the way you like it, but then something goes awry and you need to do a factory reset, well instead of resetting all of the settings to the factory default you can reset it to the setting you had earlier that you had previously setup. Another use case would be to have one preset for running in a consist, and another when running solo. Another would be having volume settings for club or public settings in one preset, and lower volumes for your home layout on another preset. There are many different ways presets can be useful.

Note: There are also other presets you can use that do not require Audio Assist or indexed CV programming to enable. See the "quick presets" section for more information.

Menu 4.3 Factory Resets

There are multiple resets available to you, you can reset the entire decoder, or just parts of it you want to keep some of your programming but reset another part you were experimenting with. Setting CV8=2 will also reset the entire decoder.

Menu 4.5 Hear a Song (Version 4+)

WOWSound decoders can sing! Check out this menu to hear some songs.

Menu 4.7 Decoder Info

This menu reads out the decoder type, version number, and date of manufacture.

4 CV Programming Overview

All NMRA, Light, and Motor Control CV values are the same as in the TCS standard line of decoders, and can be found in the **TCS Comprehensive Programming Guide** downloadable from the TCS website (www.tcsdcc.com) TCS uses 4 indexed CV's to program the sound features found in the WOWSound decoder line.

By using CV 201, CV202, CV203 and CV204 to adjust sound features, TCS is able to include thousands of different possibilities with the WOWSound decoders. What each of the 4 CV's represents is described in the following Table 1.

Table 1

Action	CV 201	CV 202	CV 203	CV 204
Assign Sounds to Buttons	1	Button #	Sound # High *	Sound # Low *
Individual Volume Change	2	Volume Level ***	Sound # High *	Sound # Low *
Sound CV Change	4	CV#	CV Value High *	CV Value Low *
Factory Reset	5	None	None	Type of Reset (2-10)**
Sound Type Volume	6	Volume Level ***	Type # High *	Type # Low *

* Found in "List of Sounds" in the WOWSound section on our website

** Found in Factory Resets (see Table 2 below)

*** Found in "Sound Types" in the WOWSound section on our website

NOTE: Visit the WOWSound section of the TCS website (www.tcsdcc.com) for instructional videos, calculators and a list of sound CV's.

Table 2

**** Factory Resets**

Value	Reset Actions
2	All Decoder Settings (Motor, Light and Sound)
3	Sound Button Mappings
4	Individual Volumes
6	Sound CV's
7	Sound Type Volumes
8	Loads Preset #1
9	Loads Preset #2
10	Loads Preset #3

NOTE: CV's 201, 202, 203 must be set before CV 204 is written. The full programming operation takes place ONLY when CV 204 has been programmed.

4 CV Write Operation

1. Determine the type of programming action you wish to perform and enter the corresponding value from Table 1 in CV 201.

(Example: Assigning a sound to a button enter a value of 1 into CV 201)

2. If you are looking to perform any operation besides a factory reset enter the value of the specific field you are operating on into CV 202.

(Example: when mapping a sound to function button 12 enter a value of 12 into CV 202)

3. Enter the “High” or “Coarse” value (found in the appropriate table on our website) into CV 203

(Example: To assign “Strasburg #475 Air powered bell” enter a value of 0 into CV 203)

4. Enter the “Low” or “Fine” value (found in the appropriate table on our website) into CV 204

(Example: To assign “Strasburg #475 Air powered bell” enter a value of 1 into CV 204)

The full programming operation takes place ONLY when CV 204 has been programmed.

4 CV Read Operation

1. Simply add 100 to whatever value you would program into CV 201 to perform a write operation.

(Example: Using our example above add 100 to 1 for a value of 101. Program a value of 101 to CV 201)

2. Now enter the value of the specific field you want to read into CV 202.

(Example: Write a value of 12 into CV 202)

3. Now write ANY value to CV 204. (to trigger the read)

(Example: Write a value of 10 (it can be anything) into CV 204)

4. Now you can Read the values of CV’s 202, 203, and 204 on your programming track using CV read back.

Random Horn Quill

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Random Horn Quill	4	1	0	0-255	0	7

Allows the user to select which of the 3 Horn Quills for each horn is randomly used when the Horn Quill button is pressed.

If Bit 7 (128) is not selected, Active quills will play in random order.	Short Quill Active	Medium Quill Active	Long Quill Active	Not Used	Not Used	Not Used	Not Used	Play Active Quills in Order
	1	2	4	8	16	32	64	128
	Add values above for CV204							

Random Sounds

Random Sound 1 Frequency

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Random Sound 1 Frequency	4	2	0	0-255	0	200

Random Sound 1 is reserved for the Air Compressor. When blowing the horn or using the train brakes air is used by the locomotive, when the air reservoir is depleted the compressor will turn on to fill it back up. This CV controls how often the air compressor will play when sitting idle to maintain pressure in the air reservoir. The higher the value in CV 204 the more frequent the sound plays.

Random Sound 2 Frequency

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Random Sound 2 Frequency	4	3	0	0-255	0	200

This sets how often Random Sound 2 plays. (Default cooling fan) The higher the value in CV 204 the more frequent the sound plays.

Random Sound 3 Frequency

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Random Sound 3 Frequency	4	4	0	0-255	0	80

This sets how often Random Sound 3 plays. (Default cooling fan) The higher the value in CV 204 the more frequent the sound plays.

Random Sound 4 Frequency

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Random Sound 1 Frequency	4	5	0	0-255	0	16

This sets how often Random Sound 4 plays. (Default Not Used) The higher the value in CV 204 the more frequent the sound plays.

Random Sound Overall Timer

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Random Sound Overall Timer	4	6	0-255	0-255	3	0

This sets the size of the time block for Random Sounds. The higher the value in CV 203 and CV 204 the larger the block of time for Random Sound calculations.

Random Sound Cutout Speed

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Random Sound Cutout Speed	4	7	0	0-126	0	126

This sets at what speed step the Random Sounds cutout. The higher the value in CV 204 the higher the speed step that the Random Sounds stop playing.

Throttle Operations

The traction motor sounds are directly tied to the speed of the locomotive. There is also a cooling fan which will play automatically in response to the traction motor being turned on and off. Automatic sounds such as direction horn blasts and automatic bell can be enabled to play using the “automatic sounds CV” but are disabled by default

Traction Motor Minimum Volume

The minimum volume of the traction motor when the motor is turned on at speed step one. The volume will increase as the speed is increased and decrease when the throttle is decreased. The maximum volume of the traction motor is determined by the traction motor “type volume”.

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Traction Motor Minimum Volume	4	48	0-127	0-255	3	232

DC mode operation

In DC mode the locomotive will sit still until a sufficient amount of track voltage is present, at which point it will start to move and will sound a directional horn blast. A grade crossing horn quill can be sounded by increasing the throttle voltage quickly. The directional horn blasts are enabled by default and are controlled by the [Automatic Sounds CV](#).

Automatic Sounds

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Automatic Sounds	4	12	0-15	0-246	255	2

This sets which automatic and random sounds are active. See Below for values

Enable Random Sound #1	Enable Random Sound #2	Enable Random Sound #3	Enable Random Sound #4	DC mode automatic bell	DC mode automatic Forward horn	DC mode automatic Reverse horn	DC mode automatic Stop horn
1	2	4	8	16	32	64	128
Add values above for CV 203							

CV204 configuration

Crew Alert	DC mode Quill	Not Used	DCC mode automatic bell	Auto Forward Horn	Auto Reverse Horn	Auto Stop Horn	Auto Direction Change Sound
1	2	4	8	16	32	64	128
Add values above for CV204							

Dual Mode Functions (Light & Sound Mode)

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Dual Mode Functions (Light & Sound Mode)	4	14	0-255	0-255	3	79

This sets which function buttons work in both Light Mode and Sound Mode. See below for values. (Default is F0, F1, F2, F5, F7, and F8)

FOF 1	FOR 2	F1 4	F2 8	F3 16	F4 32	F5 64	F6 128
Add values above for CV 204							
F7 1	F8 2	F9 4	F10 8	F11 32	F12 32	F13 not support	F14 not supported
Add values above for CV 203							

User Options

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
User Options	4	19	0	0-255	18	251

This sets which User Option is activated. See table below for values.

		Mute On Start Up	Switch/Mainline Feedback	Rotate Horn/Bell Feedback	Light Mode/Sound Mode Feedback	Audio Shutoff Timer	Using Digitrax Throttle (Func 2 Mom.)			Reverse Direction of Auto Horns		
1	2	4	8	16	32	64	128	1	2	4	8	16
Add Values for CV204							Add Values for CV203					

Note: If "Mute on Startup" is activated, Button 6 turns on the locomotive.

Audio Auto Shutoff Time

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Audio Auto Shutoff Time	4	21	0-255	0-255	10	40

Sets how long the locomotive must sit idle before the sound will shut off. The higher the value in CV's 203 & 204 the longer it will sit before the sound shuts off. (The default setting is approx. 3 min.)

NOTE: Audio Auto Shutoff Timer must be activated in "User Options" for this to work.

Automatic Bell

The Automatic bell can be enabled separately for DC or DCC mode. In DCC mode the bell will play starting at speed step 1 up until the Automatic Bell Cutout Speed is reached. In DC mode the bell will play until a certain voltage threshold is reached.

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Automatic bell cutout speed	4	45	0	0-126	0	15

Crew Alert

The “Crew Alert” or dead man’s switch is a safety feature required in modern locomotives. If there is no user input in the form of speed changes or function presses after a programmable amount of time the Crew Alert alarm will go off. If no user input is received after 15 seconds of the alarm sounding the locomotive will go into “safety mode” where the prime mover will ramp down to idle and the train brakes will be applied to stop the train. To exit safety mode release the brakes or increase the throttle speed. A light function can optionally be programmed to turn on with the Crew Alert Alarm (TCS suggests the “Flashing Light” feature). To turn on the Crew Alert feature simply turn on the Crew Alert function (function 16 by default). You will hear the alarm momentarily to signify that it has been turned on. To turn off the feature turn off the Crew Alert function. The Crew Alert feature can also be enabled by programming the “[Automatic Sounds CV](#)”

Crew Alert Timer

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Crew Alert Timer	4	29	0-255	0-255	0	43

Sets how long the engineer must be idle before the Crew Alert Sounds

Crew Alert Light Function

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Crew Alert Light Function	4	30	0	0-255	0	13

Determines which Light Function turns on when the Crew Alert Sounds. (Use a value greater than 12 to disable this feature)

Momentum

Switch Mode Acceleration Rate

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Switch Mode Acceleration Rate	4	50	0	0-255	0	6

The Value in CV204 is the value loaded into CV3 when Switching Momentum is enabled

Switch Mode Deceleration Rate

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Switch Mode Deceleration Rate	4	51	0	0-255	0	6

The Value in CV204 is the value loaded into CV4 when Switching Momentum is enabled

Mainline Mode Acceleration Rate

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Mainline Mode Acceleration Rate	4	52	0	0-255	0	20

The Value in CV204 is the value loaded into CV3 when Mainline Momentum is enabled

Mainline Mode Deceleration Rate


Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Mainline Mode Deceleration Rate	4	53	0	0-255	0	60

The Value in CV204 is the value loaded into CV4 when Mainline Momentum is enabled

Resets and Presets

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Individual Sound Volumes	5	0	0	Reset or Preset Type 2 - 10	0	Varies

Allows you to do several different Factory Resets depending on your needs. You can also call up one of 3 User Presets that you may have saved using .

User Presets are available in WOWSound decoders starting with Ver 3. They allow you to save 3 versions of you own sound settings for easy resets to settings other than the factory default values. User presets can only be setup using . Enter the value needed from the chart below into CV 204.

WOWSound Brake Operation

The WOWSound decoders use a more prototypical type of “Brake” than the TCS Standard decoders. WOWSound uses a separate “Brake” button and a separate “Brake Release” button. See [Default Button Mappings](#) for more info.

Every time you press the “Brake” button there is a 20% brake application as well as a random brake squeal sound. If you continue to press the “Brake” button several more times there is an additional 20% brake application each time you press the button. With 5 presses of the “Brake” button you are in emergency and the loco stops very quickly. Anytime that you press the “Brake Release” button you will hear the air release from the brakes while the brakes release and you can continue. Increasing the throttle setting will also release the brakes.

Pressing the “Brake Button” will apply the brake regardless of the throttle setting. So you can simulate “Power Braking” with passenger trains to keep the train stretched etc.

The “Brake” and “Brake Release” buttons can be re-mapped to any other buttons desired. See [“Re-Map Sounds to Function Buttons”](#). While the default values for the Braking rates work very well for most people; they are adjustable using CV’s. See Chart below.

CV	Default Value	Brake Rate	The Larger the number the longer it will take to come to a complete stop.
CV 183	32	Brake Rate 1 (1 press)	
CV 184	26	Brake Rate 2 (2 presses)	
CV 185	16	Brake Rate 3 (3 presses)	
CV 186	8	Brake Rate 4 (4 presses)	
CV 187	3	Brake Rate 5 (5 presses)	

Brake Grinding Sound Start Speed

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Brake Grinding Sound Start Speed	4	13	0	0-126	0	15

This sets the speed step that The Brake Grinding Sound is activated. The higher the value in CV 204 the higher the speed step the Grinding Sound will start.

Setting up Sounds

Setting up sounds and customizing your engine is easier than ever with the WOWSound. There are two ways to setup sounds, the easiest method being Audio Assist ([Menu 1.2](#)). You can assign any sound to any of the 28 NMRA functions. You can also use Audio Assist ([Menu 1.1](#)) to adjust the volume of any sound. See the Audio Assist section for more information on how to do that, or try it out for yourself, press function 8 four times in rapid succession on your decoder and the decoder will enter Audio Assist mode and talk to you, walking you through how to program it, It's easy just listen and follow along! The other way to setup sounds is through CV programming. Since the WOWSound can have over 65,000 sounds loaded into it, and each sound has its own individual volume, TCS created "indexed CVs" to be able to program and customize the WOWSound. To keep indexed CV programming simple TCS created a programming tool available on the WOWSound section of our website that calculates and gives CV values based on your input in a simplistic and easy to use way. If you want to know more about indexed CV programming see the "indexed CV programming" section of this manual.

Re-Map Sounds to Function Buttons

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Re-Map Sounds to Function Buttons	1	Function 0 to 32	Sound # High Byte	Sound # Low Byte	Varies	Varies

You can re-map any sound to any button or the 4 random sound outputs. Function Buttons 0 – 28 with Random Sound 1 = 29, Random Sound 2 = 30, Random Sound 3 = 31, Random Sound 4 = 32. **Sound # High Byte & Low Byte Numbers can be found in the WOWSound section of our website (www.tcsdcc.com).**

Rotate Bell and Horn

While it's easy to program sounds using Audio Assist TCS made an even easier way to change your horn or bell, and you can even do it while running down the main line! Press The rotate button and the decoder rotate the horn to the next horn and announce what the new horn is. The rotate feature will rotate all of the active horns on the decoder including the long toot, short toot, quill, and directional horns (directional horns are not enabled by default but can be with the "[automatic sounds](#)" indexed CV).

If you want to change the bell play the bell, then the rotate function and the decoder will rotate the active bell and play a short sample of what it sounds like. If you want to change the horn again press one of the horn buttons then press the rotate function and the decoder will once again switch to the next active horn and announce the new horn.

Also of note is that you can rotate forwards and backwards through the available bells/horns. Let's say you are rotating through and you just passed the horn you want, well instead of rotating all the way through the horns to get back to the one you want you can simply reverse the direction of the locomotive and now the rotate feature will cycle through the sounds in the other direction.

Note: The horns are in alphabetical order

Horn Set

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Horn Set	4	8	0	Horn #	0	5

This sets which Horn Set plays in Long, Short and Horn Quill. Horn Set numbers can be found in the WOWSound section of our website (www.tcsdcc.com)

Bell Selection

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Bell selection	4	23	0	Bell #	0	0

This selects which Bell is active. Bell sound number can be found in the WOWSound section of our website. (www.tcsdcc.com)

Volume Control

Global Volume

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Global Volume	4	10	0	0-100	0	100

This sets the Global Volume of the WOWSound decoder. (WOWSound has a range from 0 to 100 with 100 being full volume.)

Sound Type Volume

Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Sound Type Volume	6	Volume Setting	0	Sound Type #	0	Varies

This sets the Volume of a particular Sound Type. Volume range is from 0 to 100 with 100 being full volume. The sound type number can be found in the WOWSound section of our webpage. (www.tcsdcc.com)

Individual Sound Volumes



Functionality	CV 201 Value	CV 202 Value	CV 203 Value	CV 204 Value	CV 203 Default Value	CV 204 Default Value
Individual Sound Volumes	2	Volume Setting	Sound # High Byte	Sound # Low Byte	Varies	Varies

You can set the volume of each sound independently. Volume range is from 0 to 100 with 100 being full volume. **Sound High Byte & Low Byte Numbers can be found in the WOWSound section of our website. (www.tcsdcc.com)**

Consisting

WOWSound supports both basic and advanced (CV19) consisting. Below are a few tips for consisting the WOWSound decoder.

Speed Matching

Speed matching can be done most easily by using the speed matching menu of Audio Assist (menu 3, then 1) or by using Trim (CV's 66 and 95) TCS also supports CV's 2, 5, and 6 and user loadable speed tables. TCS also offers a line of "[Train Speed](#)" speedometers which can be useful when speed matching locomotives.

Train Control Systems
P.O. Box 341
845 Blooming Glen Road
Blooming Glen, PA 18911
215-453-9145 Office
215-257-0735 Fax
tcs@tcsdcc.com email
www.tcsdcc.com web