



The best sound decoders in the world
are TCS WOWSound

WOWSound

WOWSound Features

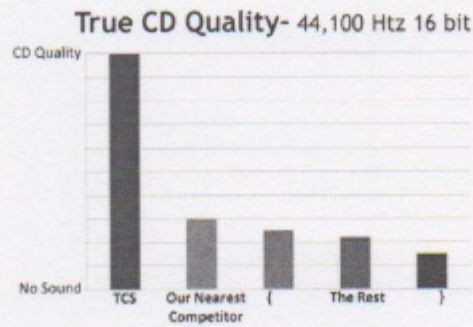
- 40+ Individual Whistles
- 18 Individual Bells
- Prototypical Cylinder Cock Sounds
- Light, Medium, Heavy and R&N #425 Chuffs with Optional Articulation
- Rod clank and Snifter Valves
- 2 Generators with wind up and wind down sounds
- Coupling and uncoupling sounds right from the prototype
- 6 Fully programmable light Functions. Choose from 19 different lighting effects
- Many More!
- Over 700 sound files on a single decoder!

What is WOWSound

Pure Recording

- All 700+ sounds on a TCS WOWSound Steam decoder are LIVE recordings. Producing the best audio without digitally generated sounds.
 - We actually leased different steam locomotives and their crews so that we can have complete access to the locos. This way we can record every sound exactly the way we needed to record it!
- Audio Quality
 - True CD Quality – 44,100 Sample per Second at 16 bit Resolution

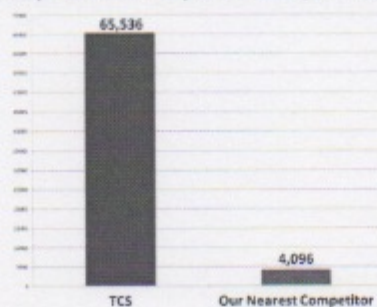
Audio Quality: The Breakdown



- Use of an SD card with 2 gb of memory allows one decoder to contain all 700+ CD quality sounds onboard. We have enough memory available for CD Quality Sound while our competition could only handle between 12 to 40 seconds if they used CD Quality Sound.
- CD Quality is what you hear in Audio CD's It is better then what MP3's use.
- Our nearest competitor has less than 7% of that!
- Bit Depth
 - Bit Depth defines how many distinct voltage levels or tones the decoder can send to the speaker.
 - CD Quality is equal to 65,536 separate tones that can be reproduced. Our nearest competitor can do 4,096!

Audio Quality: What Does it Mean?

- Bit Depth-
Bit depth defines how many different tones you can make



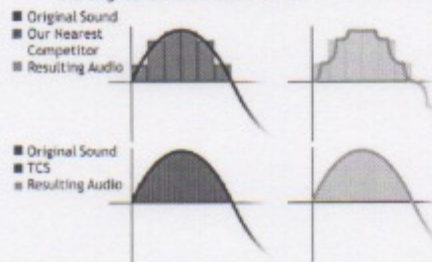
- Sample Rate

- WOWSound's CD Quality is 44,100 sound samples per second. Our competition is between 8000 to 12,000 samples per second. You can hear the difference!

Audio Quality: What Does it Mean?

- Samples Per Second-

The number of samples per second determines how similar to the original sound the audio will be.



Performance: Models Aren't Toys

- Prototype Mode / Slot car Mode

- WOWSound defaults to Prototype Operation
- Acceleration CV3 and Decoration CV4 are set at higher values simulating the characteristics of a prototype locomotive
- This requires the use of the TCS Braking Feature (see below) to bring the locomotive to a controlled stop and accelerate like a real locomotive pulling a real load.
- By lowering the values in CV's 3 & 4 you can put the decoder into what we call "Slot car Mode" where the locomotive speed controlled in the conventional way

- Automatic BEMF

- The best slow speed control in the industry without any user adjustments. Right out of the bag, any TCS decoder will crawl at speed step 1, so slow that you will have to keep looking at it to make sure it is actually moving!

- Proto Chuff

- Chuff volume and sound varies based on how much work the motor is doing.

- Chuff randomly varies as the locomotive goes down the track. Never Boring! No more of the same chuffs over and over again as with our competitors
- Automated Chuff Timing
 - This provides accurate chuff timing throughout the entire speed curve and it is adjustable without using CV's! Who needs cams? (We do provide a cam option for those of you that still insist on that security blanket.)
- Brake Control
 - Let's you apply the brakes with a Function Button and then Release them with another Function Button
 - By default the Brakes will apply in 20% increments every time you press the Brake Button so you can control the amount of braking you want to use. JUST LIKE THE PROTOTYPE! Not just on and off like some others.
 - The percentage of braking per button push is programmable
 - Braking works regardless of throttle position so you can also "Power Brake", just like the prototype.
- Cylinder Cocks
 - Cylinder Cocks are actual recordings synchronized with the chuffs. Not just "White Noise" or nothing at all like some others.
 - They come on automatically after the loco sits at 0 speed for a period of time and turn off automatically as the loco gains speed.
 - Idle time and auto turn off speed are both programmable.
 - They can also be assigned to a function button
- Drifting /Coasting
 - If you turn the throttle down to a lower speed setting, the chuff gets softer until the new speed is reached, then as the new speed is reached the chuff picks up in volume again.
 - As the loco decelerates to a lower speed you will hear the rods clanking until the loco reaches the new speed and starts chuffing again.

- If you turn the throttle all the way down to 0 speed, the snifter valves will kick in.
- **Keep Alive™ = Smooth Operation**
 - Keep Alive TCS KA2 is included with the WOWSound 101-Steam-KA
 - This provides from 5 to 8 seconds of power to keep your loco running through dead spots in the track.
 - This keeps everything running – Motor, Lights and Sound!
 - When you turn off the power to your layout you will still hear the WOWSound decoder making sound for several seconds. This may take some getting used to.

Audio Assist™ (Patent Pending): It Speaks!

- Audio Assist™ is revolutionizing the way we program decoders
- No more grabbing the manual or running to JMRI to get CV Numbers and values to make sound adjustments
- Just Press 8 four times and a real human voice will guide you through the process
- Using Audio Assist™ you can change Master Volume, Sound Type Volume, Choose Sounds, Change Locomotive Type (4 different Chuff Sets), Enable chuff articulation, Set the Chuff rate, Remap sounds to any function button, setup random sounds, do any of several reset options, and create up to 3 user presets for club, home, or layout specific sound settings (a TCS exclusive feature)
- ALL without knowing or using a CV!

Rotate Whistle Feature

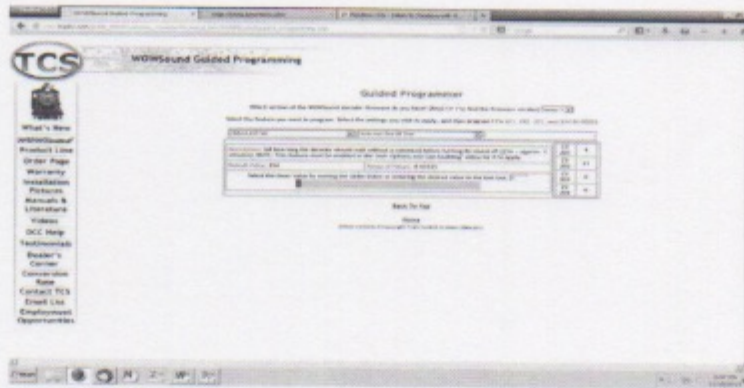
- Here is a quick look at the way it works
- Use a Function Button to rotate through all the different whistles until you find the one you want. Nothing else is required!
- Not only can you rotate through the whistles but the decoder tells you what whistle it is!
- No complicated CV's to look up!

Light Mode / Sound Mode

- Allows you to use convenient function buttons for both Lighting Functions and Sound Functions (The best of both worlds)
- With most other sound decoders, you have to make a trade off between what sounds to control with function buttons and which lighting features you want to control with function buttons.
- Light Mode/Sound Mode makes all 28 function buttons available for both sound and lights.
- Press F8 twice to enter Light Mode which gives you a full 28 available function buttons to assign lighting features to.
- Press F8 twice again and you enter Sound Mode where all 28 function buttons are available to assign sound features to.
- You can even make some buttons control both sound and light features at the same time. Such as having the Generator sound start up with the Headlight.

Online Programming Tool

http://www.tcsdcc.com/public_html/Customer_Content/Technical_Info/WOWSound/guided_programming_vers3.php



- There are a few sound related features that are not accessible in Audio Assist™
- For most people, the default settings are going to be fine
- For those of you that want to change these settings, we have our Online Programming Tool to give you the CV values to program into your decoder.
- TCS Uses 4 indexed CV's to adjust all the sound settings (CV201, 202, 203, & 204)
- Features to use the Programming Tool For Include:
 - Cylinder Cock shut off speed
 - Random Sound Frequency (How often they play)
 - Proto Sound settings. (when variable chuffs sound files start playing)
 - Enable/Disable Automatic Sounds
 - Brake Grinding sound start speed
 - Dual Mode functions
 - Proto Chuff Variation – BEMF Intensity
 - Cylinder Cock automatic turn on time
 - Automatic Directional Whistles
 - Articulation
 - Various User Options
 - Articulated slip rate
 - Audio Auto Shutoff Time

Support and Service

- All TCS Decoders are covered by our world renown **Goof-Proof Warranty**
- All TCS products are designed and manufactured in the U.S.A.
- Like our mobile decoder product line, every single WOWSound is inspected under a high powered microscope and fully dynamically tested before it leaves our factory so you can trust it will work when it arrives at your door!
- WOWSound dedicated section on our website populated with tutorial videos, guides and CV Calculators (for non-Audio Assist™ features)
- Phone and email support from individuals involved in the WOWSound development. 215-453-9145 www.tcsdcc.com

When you make the best, you back it up with the best warranty!