

HISTORY

It is interesting how technology works its way into main stream use. In the mid 1890's superheated steam was the latest in high tech for locomotives. But it was not until about 1906 that this high tech invention was put into big production in steam engines. Why the delay. The superheated steam was so hot and dry that existing lubrication would failed. It took about 10 years to develop a high temperature lubrication to make superheated steam workable.

DCC came out in the mid 1990's and now ten years later technology has made sound a very practicable and affordable part of DCC. SoundTraxx got the ball rolling and then QSI stepped in supplying sound to BLI for their locomotives. In 2005 a number of sound players got into the act. MRC came out with a new line sound decoders for steam and diesel called "Brilliance". Digitrax announced they were going to produce DCC sound decoders called "SoundFX" at the 2005 NMRA convention. Digitrax sound decoders were going to be in Kato locomotives. ESU of Germany has been making sound decoders since 1999 and is now marketing them in the USA. The ESU line of decoders is called "LokSound".

The big advancement in sound decoders is downloadable sound files. Both Digitrax and LokSound have this ability. What this means for the dealer is they only stock one DCC decoder and then download the locomotive sound file that the customer ordered. If the modeler has a programmer they can change or modify the sounds in the decoder to match their requirements. A decoder that was programed for diesel sounds could be re-programing for a steam engine.

MRC has taken another approach to

minimizing the number of sound decoders they make. They have only two decoders, one steam and one diesel with pre-recorded sounds. The steam decoder has 12 whistles and 8 chuffs. The diesel has 11 horns and 7 bells. The sounds are selected with different CV settings.

Many of these sound files are created by recording locomotives that are in museums. Newer models are recorded from operational locomotives. An internet note from Athearn said they were going to Colorado to record the sounds of an SD45 so their new model would be as authentic as possible.

Another area of downloadable sound files that is just starting to appear on the internet is modified or new sound files created by modelers. Now a modeler can make up a sound file to match some low production locomotive that would not be feasible for the sound decoder to make. This is a new area of model railroading.

SoundTraxx has not just rested with their line of sound decoders. Their new line of decoders is called Tsunami. What makes this new line different is the sounds have been recorded with 16 bit sound samples. Most of the available decoders used 8 bit sound. This gives their sound a significant improving in the quality of sound produced by the decoders.

PLAYABLE WHISTLE

One recent addition in sound features is the "playable" whistle option. This will allow you to play the whistle as it is blown. The new SoundTraxx Tsunami and the Digitrax SoundFX decoders will have the "Playable Whistle" feature. In order to use it you need a cab or throttle that can activate this

feature. The Digitrax DT400 uses a pressure sensitive F2 function key. This feature has been in the DT400 for a long time in anticipation of the production of the playable whistle in sound decoders. NCE will use a combination of a key and the thumb wheel to control the playable whistle. NEC will require a system ROM update to implement this on the ProCabs.

COMPARING SOUNDS

The sound that comes out of the tiny speakers in our locomotives are subject to a many variables. It starts with how the sound was originally recorded. The location of the microphone can make a big difference. Sound recorded with 16 bit will sound better than 8 bit recording.

Once recorded the sounds are cut up into pieces to make very small sound segments. These are used to make the sound files that are programed into the decoders. These short

segments can be less that a second to a few seconds long. Sustained sounds like a diesel idling may only be a short recording that is looped and played back continuously unit the engine speed is increased. Whistle sounds may need three parts. The startup sound, sustained sound and then the sound when you let your finger off the key.

Downloadable sounds can vary in quality and sound level. I've downloaded different sound files and found some to be louder. With some files you may find that one item may not sound right to you. I've found that the bell in a few did not sound like a US locomotive bell. Easy to try another sound file.

The installation and speaker can also play a part in the way the locomotive sounds. Last is how we remember hearing a locomotive and are own ability to hear the sounds.

Sound Decoder Features

	SoundTraxx <i>Tsunami</i>	SoundTraxx <i>LC</i>	Digitrax <i>Sound FX</i>	ESU <i>LokSound</i>	MRC <i>Brilliance</i>
Decoder Size	Note 2	"AT" format or 1.9 X 0.65 X 0.23 Note 1	Note 2	1.22L X 0.61wX0.26H	48mm X 17mm x7.5mm
Speaker	8 Ohm	8 Ohm	32 Ohm	100 Ohm	8 Ohm
Included Speaker Size	None	None	28MM No Enclosure	0.91 Inch with Enclosure	28mmwith steam and diesel decoders Plus a 20mm with the diesel decoder Both come with Enclosures
Sounds that are Available	So far only steam in the Beta test decoders	Diesel and steam sounds preprogramed in decoder	Downloadable with Digitrax Programmer	Downloadable with LokSound Programmer many steam and diesel to choice from	Choice of steam or diesel decoder with selectable sounds that are prerecorded.
MSRP (Price)	Not Released for sale yet	TBD	\$79.98	\$139	\$119.95

Note 1: SoundTraxx has Plug N' Play to fit individual locomotives. Note: 25.40 mm = 1 inch
Note 2: The production unit is not available yet

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