*Note- Instead of using CV3 and CV4, the decoder uses CV120 and CV121 as acceleration and deceleration rates. So you can change its acceleration and deceleration rates without changing CV3 or CV4 in your power decoder, if you already have these rates tailored for your locomotives optimum performance.

ADDRESS PROGRAMMING

The "MRC Sounder" comes with a factory default address of #3, and 28 speed steps. If your locomotive has a different address, and speed step already programmed into it, place the locomotive, with decoder and MRC Sounder installed, on your program track and **re-program** it to the address you had originally programmed it to. While it is on the program track, also **re-program** the locomotive to the speed step of your choice, (14-28/128). Since the decoder does not have a motor driver, you can't read back its CV.

ADDITIONAL INFORMATION

The MRC Sounder synchronized diesel sound only decoder should perform well when used with other brand command systems, and decoders. See your DCC command stations manual to learn how to program and operate any decoder. For more information about register/CVs and their functions, please refer to the NMRA DCC Standard & Recommended practices, RP-9.2.2 available directly from the NMRA or their website at www.nmra.org.

FCC COMPLIANCE

This device complies with part 15 of FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

RETURN PROCEDURE

This decoder carries a 6 month warranty against factory defects. This warranty **does not** include abuse, misuse, neglect, improper installation, or any modifications made to this decoder, including but not limited to the removal of the NMRA plug if applicable. If it should become necessary to return the decoder for warranty repair/replacement, **please include a copy of the original sales receipt**. Please include a letter (printed clearly) with your name, address, daytime phone number, and a detailed description of the problem you are experiencing. Please also include a check or a money order for $8.00 to cover return shipping and handling. If the decoder is no longer considered under warranty, then please include a check or a money order for $12.00 to cover the cost of repair or replacement and return shipping and handling. **Be certain to return the decoder only.**

Any questions regarding Warranty Policy can be directed to our Customer Service Department by calling 732-225-6360 between the hours of 8:30am and 6:00pm EST, or by emailing: rrtech@modelrectifier.com

Send the decoder to:

Model Rectifier Corporation
Attn: Parts & Service
80 Newfield Avenue
Edison, NJ 08837-3817 U.S.A

MRC
TECHNOLOGY. PERFECTED.
MODEL RECTIFIER CORPORATION

MRC SOUNDER™
Steam Sound Decoder with 28 Accessory Functions

Item 0001665

Thank you for purchasing our highly advanced DCC Steam sound only decoder. Combined with any non-sound power decoder installed in your locomotive, and used with your favorite DCC System, our new sound only decoder with "Carnegie Hall" sound quality will make your model locomotive come to life.

- Easy installation - two wire only
- 24 types of synchronized chuff (12 single and 12 double) with random associated locomotive sounds
- 28 functions (F1 - F28)
- 2 or 4-digit (1-9999) addressing
- Programmable 14, 28, 128 speed steps
- Programmable acceleration rate, deceleration rate
- Programmable user selectable 34 whistles and 8 bells
- Programmable individual sound volumes
- Supports advanced consisting (CV19)
- Supports programming on the main(OPS mode)
- Compatible with NMRA DCC standards
- Complies with the part 15 of FCC
- 28mm speaker included
- Dimensions: 17.4mm x 17.4mm x 4.0mm

INSTALLATION

Since there is no motor output in this sound decoder, it can be used in any locomotive, regardless of scale that already has a working power decoder installed. If used in large scales where track voltage exceeds 16 volts, (O/G scales), a special voltage reducer is required to be used in-line to the Sounder. Contact Model Rectifier Corp. for details and price.

To install the Sounder into a locomotive, simply solder the red and black wires to any power pick up points, left and right side wheel pick ups, along with the red and black wires of your power decoder. If using with higher voltage DCC applications for larger scales, solder the MRC voltage reducer to either the red or black wire between the Sounder, and the power pick up point. You should have some basic electrical knowledge and soldering skills. If you do not have the above requirements, please ask the dealer for help with the installation.

SPEAKER SELECTION

The "MRC Sounder" steam sound only decoder comes with a 28mm round 8-ohm speaker. If it is too large for your application, smaller speakers, 20mm, or 16 X 35mm rectangular, can be purchased from MRC, or other manufacturers. Reducing speaker size will affect the overall sound quality of this decoder. Placement of the speaker inside the locomotive is up to you. Use hot glue or double-sided sticky tape to affix the speaker inside the locomotive shell.

OPERATION

There are 34 whistles sounds and 8 bell sounds, along with an "off" setting for each built into this decoder for you to choose from. See programming chart for selecting the type you want. The "off" setting is useful for trailing locomotives in a consist so only the lead unit sounds its whistle and bell.

If your DCC system supports higher functions, **F13** to **F28**, you can use these functions to change the type of bell sound, **F18**, or horn sound, **F19** on the move, without having to go into "ops mode" programming or by changing CV values.

Function	Idle/Moving
F0	Headlight on/off
F1	Bell on/off
F2	Whistle
F3	Air release
F4	Coupling
F5	Brake release (idle) / brake squeal (moving)
F6	Conductor while idle/Rail wheel clack while moving
F7	Fire box open /close
F8	Injector
F9	Metal crank sound on/off (moving), steam associated sound (idle)
F10	Water injector
F11	Blower hiss
F12	Sound on/off
F13	Coal auger
F14	Air hose firing/uncoupling lever
F15	Flange noise
F16	Shoveling
F17	Crash sound
F18	Change bell type (use F1 to turn off bell after adjustment)
F19	Whistle type select (total 34 different ones)
F20	Bell rate change (use F1 to turn off bell after adjustment)
F21	Change bell volume (use F1 to turn off bell after adjustment)
F22	Change whistle volume
F23	Change chuff volume
F24	Chuff type select (total 24 types)
F25	air release
F26	sand dropping
F27	Associated loco sound
F28	Associated loco sound

CV	Register	Description	Range	Default
CV1	R1	Short address	1-127	3
---	R6	Page number	---	---
CV29	R5	Basic configuration	---	2
CV7	R7	Manufacturer version number	---	32
CV8	R8	Manufacturer ID	---	143
CV17	---	Long address upper byte	192-231	192
CV18	---	Long address lower byte	0-255	3
CV19	---	Advanced consist address	0-127	0
CV21	---	When CV21=0, all accessory functions will follow its own address. When CV21=1, all functions will follow the consist address	---	0
CV50	---	Whistle type	0-33	4
CV51	---	Whistle volume	0-3	3
CV52	---	Bell type	0-6	3
CV53	---	Bell volume	0-7	3
CV54	---	Bell ring rate	0-50	3
CV55	---	Chuff type	0-11	3
CV56	---	Chuff volume	0-3	3
CV57	---	Brake squeal volume	0-3	3
CV58	---	Air release volume	0-3	3
CV59	---	Blower hiss volume	0-3	3
CV60	---	Fire box door volume	0-3	3
CV61	---	Injector volume	0-3	3
CV62	---	Coupling volume	0-3	3
CV63	---	Air pump volume	0-3	3
CV64	---	Rail clack volume	0-3	3
CV105	---	User identification number	0-255	0
CV106	---	User identification number	0-255	0
CV112	---	Conductor volume	0-3	3
CV113	---	Random sound enable	0-1	1(enable)
CV114	---	Brake release volume	0-3	2
CV117	---	Chuff rate	0-10	1
CV119		Coupling fire volume	0-3	3
CV120		Acceleration	0-32	0
CV121		Deceleration	0-32	0
CV122		Double chuff enable	0-1	0(disable)
CV123		Chuff start rate adjustment	0-4	1
CV125	---	Factory default setting, program it to1 will restore all the CV to default setting	---	0

*Note- If you activate the bell sound, **F1**, while either the Rail-Wheel Clack sounds are activated, the Bell sound will override the other two sounds.