XL Systems Inc
14 Dora Ln Holmdel, NJ 07733
Diesel Sound Decoder with 6 Prime Mover Sound   Item #0001909

Thank you for purchasing our advanced DCC diesel 16 bit 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 will make your model locomotive come to life.

- Easy installation - two wire only
- Six synchronized diesel prime movers 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 22 different horns and 8 bells
- Programmable individual sound volumes (16 levels)
- Programmable master sound volumes (16 levels)
- Supports advanced consisting (CV19)
- Supports programming on the main (OPS mode)
- Compatible with NMRA DCC standards
- Complies with the part 15 of FCC
- 18mm speaker included
- Dimensions: 17.4mm x 17.4mm x 4.0mm

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 "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 Sounder installed, on your program track and reprogram it to the address you had originally programmed it to. While it is on the program track, also reprogram 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 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.

TROUBLE SHOOTING:
This decoder should perform well with all DCC systems. The maximum DCC output should be less than 15 V. If the locomotive does not respond to commands, it may have lost its address. Please reprogram the address and program CV19 to 0 (disable consist). If it responds slowly, you should clear its momentum by reprogramming CV120 and CV121 to zero. You should also clean the track to improve electrical pickup. Read your DCC system manual to learn how to program and operate the decoder. Whenever the decoder doesn't

work please use the program track to program CV# 125 with value 1 to restore the decoder to factory settings. This should bring the decoder to life with address #3.

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. 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.

Send the decoder to:
XL Systems Inc
14 Dora Ln
Holmdel, NJ 07733
Email: linzping@gmail.com

FUNCTION CHARTER:

	Function Idle/Moving
F1	Bell on/off
F2	Horn
F3	Air release
F4	Coupling 1
F5	Brake release / brake squeal
F6	Dynamic brake on/off
F7	Air hose firing/uncoupling lever
F8	Click 3 times will shut down when in idle/Manual notch down
F9	Engine cooling fan / Manual notch up
F10	Rail wheel clack (only moving)
F11	Traction air compressor
F12	Change prime diesel rumble type (CV123, 6 types)
F13	Master volume reduce by 1 / air release
F14	Master volume increase by 1 / air release
F15	Air compressor
F16	flange squeal
F17	Air release
F18	Change bell type (8 types plus off)
F19	Horn type select (total 22 different horns plus off)
F20	Associated loco sound
F21	Change bell volume and turn on the bell
F22	Change horn volume
F23	Change diesel rumble volume
F24	Safety valve pop
F25	Air release
F26	Flange noise
F27	Sand drop
F28	Air release

CV CHARTER:

CV#	Description	Range	Default
CV1	Short address	1-127	3
CV7	Manufacturer version number	—-	0
CV8	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	CV21=0, all accessory functions follow its own address. When CV21=1 all functions will follow the consist address	—-	0
CV49	Master volume control 16=max volume, 0=sound off	0-16	16
CV50	Horn type (22 types plus off, 22=off)	0-22	13
CV51	Horn volume	0-15	15
CV52	Bell type (8 types plus off, 8=off)	0-7	5
CV53	Bell volume	0-15	15
CV54	Bell ring rate	0-50	3
CV55	Diesel rumble volume	0-15	12
CV56	Brake squeal volume	0-15	12
CV57	Dynamic brake volume	0-15	12
CV58	Air release volume	0-15	12
CV59	Air pump volume	0-15	12
CV60	Safety pop valve volume	0-15	12
CV61	Engine cooling fan volume	0-15	12
CV62	Coupling volume	0-15	12
CV64	Rail wheel clack	0-15	12
CV106	User ID number	0-63	63
CV115	Brake sound type: 2=brake sound off	0-2	0
CV120	Acceleration	0-255	255
CV121	Deceleration	0-1	0

CV125 Program to "1" will restore some CV's to factory settings

DIESEL SELECT CV123 CHARTER:

CV123	Prime mover	Suitable for the locomotive
0	EMD645E	SD39, SD40, SD40A, SD40-2, SD40T-2, SD45, SDP45, SD45X, SD45-2, SD45T-2, F45, FP45, DDA40X, GP15T, GP39, GP39-2, GP40, GP40-2
1	EMD645	SW 1000, SW1001, SW1500, SW1500, SW1504, MP15DC, MP15AC, MP15T, GP38, GP38-2, SD38, SD38-2, GP15AC, GP15-1
2	EMD710	SD70AC, SD70M-2
3	ALCO244	RS-3, PA1, PB1
4	ALCO539T	S-2, S-4, RS-1, RSC-1, RSD-1, DL-105, DL-107, DL-108, DL-109, DL-110
5	EMD567	F2A/B, F3A/B, F7A/B, F9A/B, BL1, BL2, FP7, FL9, FT, GP7, GP9 ,GP18 ,GP28 E6, E7, E8, E9, NW2, NW3, NW4, SW1, SW7, SW8, SW9, SW600, SW900

EXAMPLE:
If you install the decoder into a SD40 loco you should to program CV123 to 0 to select EMD645E diesel prime mover. If your model is RS-3 program CV123 =3.

About US

XL Systems Inc has designed and manufactured model rail road products for MRC for more than 20 years. All MRC DCC products are made by XL Systems Inc. All our DCC products are compatible MRC DCC products. We will introduce more new products to meet customer's beget. We also provide installation and special programming and modification for customer. If you have special needs please contact to us at: linzping@gmail.com or maxiulandcc@gmail.com.

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