

## **MRC 1025 SYNCHRO SOUND BOX FOR STEAM OR DIESEL**

### **INSTRUCTIONS**

Scanned and rearranged to fit US Letter paper by  
Ralph Walker  
[www.Zweisimmen.com](http://www.Zweisimmen.com)  
March 12, 2011

This is the only place on the WWW where these instructions can be found. They do not appear on MRC's website. Since this document was generated from scans, it is inferior in quality to the PDF files offered on the MRC website.

The original document is 2-sided, on legal paper, folded in thirds. Since most of us don't use legal paper I rearranged the panels to fit 3 pages of US Letter paper.

**COPYRIGHT NOTICE:** Although there is no copyright notice on the original document, the content still belongs to MRC. This presentation of the material is Copyright 2011 by [www.Zweisimmen.com](http://www.Zweisimmen.com). You may do anything you want with this file provided you leave it intact.

See also my review of the device, and a sample sound file, at [www.Zweisimmen.com](http://www.Zweisimmen.com)



## Synchro Sound Box For Steam Or Diesel

Item No. 0001025

Thank you for purchasing MRC's Synchro Sound Box. This synchronized stationary sound unit brings life to your DC or DCC layout without the hassle of installing on-board sound units into each of your locomotives.

With its powerful 3-watt amplifier and sound-on-sound capability, these sound units will make your model railroad more realistic and exciting.

- Dual mode capability works with either D.C. or DCC
- Two types of sound modes, Steam or Diesel both with random sounds
- Speaker included
- 20 accessory sound functions in D.C./28 in DCC.

### Hook-Up

DC (Analog) Layouts – Simple 4-wire hook-up

DCC (Digital) Layouts – Simple 2-wire hook-up

Speaker wires factory connected.

Following the chart supplied, connect the color-coded wires to the power outputs. The speaker is already attached for your convenience. If you need a longer run of wire between the box and your speaker location, cut and splice in the amount needed. Do not forget to solder and insulate the connections. For DCC operation, tape the exposed sections of the unused wires to prevent short circuits.

### DC (analog) Operation

When the Synchro Sound Box is properly hooked-up to your layout, turning on the power pack will produce idling sounds for the mode picked (steam or diesel). Advancing your power pack throttle will set the engine sound in motion, along with the speed of your loco. Pressing any one of the sound buttons will add sound-on-sound to the engine sound.

### DCC (Digital) Mode

The Synchro Sound Unit is NMRA compatible and can be used with most DCC systems.

It is programmed the same as if it were an on-board sound decoder. It must be programmed to the same address as the locomotive you want to use it with.

This sound unit supports all program methods including register, page CV, direct CV and programming on the main (OPS mode programming).

#### Programming Features:

- Synchronized diesel rumble or steam chuff with random sounds
- Programmable for either 2-digit (1-127) or 4-digit (1-9999) addresses
- Programmable start voltage
- Programmable acceleration rate
- Programmable deceleration rate
- Programmable 14, 2<sup>nd</sup>, 12<sup>th</sup> speed steps
- Programmable 14 different whistles (steam only)
- Programmable 4 different whistles (steam only)
- Programmable 8 different bells (diesel only)
- 28 accessory sound functions
- Supports programming on the main
- Compatible with NMRA standards
- Complies with Part 15 of F.C.C.

Use the following charts to program your unit for your application (steam or diesel). The charts show you the registers or CVs used and typical values to enter.

10	DC	DCC
Blue & Gray	Speaker (factory connected)	Speaker (factory connected)
Red & Black	Accessory Terminals AC/DC 18 Volts Max	D.C.C. Unit Track Out
Yellow & White	Variable (Track) Terminals AC/DC 18 Volts Max	Not Used

DCC operation- For best results do use buttons on the Synchro Sound Box, use your DCC system function button buttons

Function	Diesel mode	Steam mode
F1	Diesel bell on/off	Steam bell on/off
F2	Horn	Whistle
F3	Air release	Air release
F4	Coupling 1	Coupling 1
F5	Brake release (idle) / brake squeal (moving)	Brake release (idle) / brake squeal (moving)
F6	Dynamic brake on/off	Change chuff volume
F7	Uncoupling lever	Uncoupling lever
F8	Air hose firing	Air hose firing
F9	Engine cooling fan	Change chuff type
F10	Rail wheel clack ( moving)/ "All Aboard" (idle)	Rail wheel clack (moving)/ "All Aboard" (idle)
F11	Crossing bell on/off	Crossing bell on/off
F12	Switch between diesel and steam mode	Switch between diesel and steam mode
F13	Traction air compressor on/off	Long air release
F14	Coupling crash	Water injector
F15	Air pump	Hiss blow off
F16	Exhaust	Coal
F17	Safety air pop	Chuff rate slow down (when minimum is reached uncoupling lever sound)
F18	Change bell type (use F1 to turn off bell after adjustment)	Chuff rate speed up (when maximum is reached air release sound)
F19	Horn type select (total 16 different horns)	Whistle type select (total 16 different horns)
F20	Change bell rate	Change bell rate
F21	Change bell volume (use F1 to turn off bell after adjustment)	Change bell volume (use F1 to turn off bell after adjustment)
F22	Change horn volume	Change whistle volume
F23	Change diesel rumble volume	Change chuff volume
F24	Change rail clack volume	Change rail clack volume
F25	Change brake volume	Change brake volume
F26	Air pop	Short air
F27	Air pop	Short air
F28	Short air	Short air

#### FCC Compliance

This device complies with part 15 of the 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

If it should become necessary to return your Synchro Sound Box. Please include a letter (printed clearly) with your name, address, a daytime telephone number, and a detailed description of the problem you are experiencing. Please also include a \$20.00 check for shipping and handling. Send the Synchro Sound Box to:

Model Rectifier Corporation  
 Attn: Parts & Service  
 80 Newfield Avenue  
 Edison, NJ 08837  
 Tel. 732-225-6360  
 PRINTED IN USA

**DC operation**

Function	Diesel mode	Steam mode
F1	Diesel bell on/off	Steam bell on/off
F2	Horn	Whistle
F3	Air release	Air release
F4	Coupling 1	Coupling 1
F5	Brake release (idle) / brake squeal (moving)	Brake release (idle) / brake squeal (moving)
F6	Dynamic brake on/off	Change chuff volume
F7	Uncoupling lever	Uncoupling lever
F8	Air hose firing	Air hose firing
F9	Engine cooling fan	Change chuff type
F10	Rail w heel clack (moving)/ "All Aboard" (idle)	Rail w heel clack (moving)/ "All Aboard" (idle)
F11	Crossing bell	Crossing bell
F12	Change horn volume	Change whistle volume
F13	Traction air compressor on/off	Long air release
F14	Coupling crash	Water injector
F15	Air pump	Hiss blow off
F16	Exhaust	Coal
F17	Change diesel rumble volume	Chuff rate slow down (when minimum is reached uncoupling lever sound)
F18	Change bell type (use Bell button to turn off bell after adjustment)	Chuff rate speed up (when maximum is reached air release sound)
F19	Horn type select (total 16 different horns)	Whistle type select (total 4 different whistles)
F20	Change bell volume (use F1 to turn off bell after adjustment)	Change start chuff point

**CV chart**

CV	Register	Description	Range	Default
CV1	R1	Short address	1-127	3
CV3	R3	Acceleration	0-32	0
CV4	R4	Deceleration	0-32	0
CV6		Speed curve select (0=linear, 1=slow increase at low speed, 2=fast)	0-2	0
---	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
CV49	---	Mode select		
CV50	---	whistle type ( 4 types)	0-3	0
CV51	---	Horn/whistle volume	0-3	3
CV52	---	Diesel bell type (8 types)	0-7	3
CV53	---	Bell volume	0-7	3
CV54	---	Diesel bell ring rate	0-50	3
CV55	---	Diesel rumble volume	0-3	3
CV56	---	Brake squeal volume	0-3	3
CV57	---	Dynamic brake volume	0-3	3
CV58	---	Air release volume	0-3	3
CV59	---	Air pump volume	0-3	3
CV60	---	Safety pop valve volume	0-3	3
CV61	---	Engine cooling fan volume	0-3	3
CV62	---	Coupling volume	0-3	3
CV64	---	Rail wheel clack	0-3	3
CV112	---	Exhaust volume	0-3	3
CV113	---	Coupling fire volume	0-3	3
CV114	---	Brake release volume	0-3	3
CV116	---	Steam bell ring rate	0-50	1
CV118	---	Horn type (14 types)	0-13	5
CV119		Chuff volume	0-3	3
CV120		Chuff rate	0-40	3
CV125	---	Factory default setting: Programming to 1 will restore all CV's to default setting	---	0