White Pass & Yukon/ DS NG MLW C-14

16Bit SOUND

Photo Wikipedia

The Prototype

MLW-Worthington Model Series C-14, Specification DL-535E, with Alco Products, Inc. 6-251D prime mover. Purchased new. Sold to Sociedad Colombiana de Transport Ferroviaro S.A. in 1992 (STF #1101). Repurchased by the WP&YR in 1999 (#101). Sold to the Durango & Silverton Narrow Gauge Railroad (D&SNG) in April 2020.

Wikipedia

Sound Project Information

This sound project is made with recordings of the original locomotive.

The locomotive emits a discreet diesel noise, which is drowned out by the loud cylindersound when accelerating. A smoke generator will emit a lot of smoke for during these acceleration revs.

In order to hear these acceleration beats in your model, you have to abruptly increase the controller speed by one value. The amount by which the controller is abruptly increased results in the number of acceleration noises of the engine. Gently increasing the speed does not give an acceleration noise. Please note that the beating accelerating noise becomes puny the lower the value of CV 3 is. With a little experimentation one can make this effect nicely audible.

The CVs 3, 4, 5, 6 and 57, 154 and 158 have values which are very important for the proper function of the sound project. Especially the CVs 3 and 4 have a considerable influence on how the sound unfolds! CV5 should always be at the maximum, otherwise sounds such as the wheels on the track will be cut out. The maximum speed is to be adjusted with CV 57. Throttling back using only CV 57 also saves the motor from excessive voltage pulses. Please make changes to these CVs very carefully!

Users whose digital system does not have all 28 functions, or who wish to order functions differently on the keys, can easily assign functions to other keys, using the Zimo function key mapping. Program the desired key number as your value in the CV 400+Fu number and the whole function is mapped to another key. Please take care, as it is possible to map multiple functions to the same key! Please read the instruction sheet http://sound-design.white-stone.ch/Information.html

Taste Funktionen

F0: FA0v bei Vw + FA0r bei Rw
F1: Airbellringer.wav
F2: Horn HWC.wav + FA1 + FA2 Ditchlight
F3: Horn.wav
F4: Horn short.wav
F5: FA5
F6: FA6
F7: Radio com.wav
F8: User Sounds on/off + Speed up Sound
F9: Curve squach key
F10: Dynamic Break (CV380)
F11:
F12: Coupler open + FA7 + Servo1 + Servo2
F13: Coupler close.wav
F14: Compressor.wav
F15:
F16: Mute wenn ein
F17:
F18:
F19:
F20:
F21:
F22:
F23:
F24:
F25:
F26:
F27: Vol- (CV396)
F28: Vol+ (CV397)

Zufallsgeräusche

Z1: Compressor after stop
Z2: Compressor hold the gauge
Z3: short airpop during running

Schalteingänge

S1: Horn HWC
S2: Airbellringer

Changing CVs values used by the reset

CV# 3 = 18 Acceleration rate
CV# 4 = 23 Deceleration rate
CV# 7 = ---
CV# 14 = 67 Analog functions F0, F9-F12
CV# 29 = ---
CV# 35 = 0 Function mapp. F1
CV# 36 = 12 Function mapp. F2
CV# 37 = 0 Function mapp. F3
CV# 38 = 0 Function mapp. F4
CV# 41 = 0 Function mapp. F7
CV# 42 = 0 Function mapp. F8
CV# 43 = 0 Function mapp. F9
CV# 44 = 0 Function mapp. F10
CV# 45 = 0 Function mapp. F11
CV# 46 = 4 Function mapp. F12
CV# 47 = 16 n.a.
CV# 48 = 32 n.a.
CV# 57 = 140 Motor regulation: voltage reference
CV# 60 = 110 Dimming general
CV# 65 = 0 Sub-Vers. Number
CV# 67 = 15 Individual Speed Value 1
CV# 68 = 36 Individual Speed Value 2
CV# 69 = 55 Individual Speed Value 3
CV# 70 = 75 Individual Speed Value 4
CV# 71 = 90 Individual Speed Value 5
CV# 72 = 90 Individual Speed Value 6
CV# 73 = 90 Individual Speed Value 7
CV# 74 = 90 Individual Speed Value 8
CV# 75 = 90 Individual Speed Value 9
CV# 76 = 90 Individual Speed Value 10
CV# 77 = 120 Individual Speed Value 11
CV# 78 = 160 Individual Speed Value 12
CV# 79 = 160 Individual Speed Value 13
CV# 80 = 160 Individual Speed Value 14
CV# 81 = 160 Individual Speed Value 15
CV# 82 = 160 Individual Speed Value 16
CV# 83 = 181 Individual Speed Value 17
CV# 84 = 200 Individual Speed Value 18
CV# 85 = 200 Individual Speed Value 19
CV# 86 = 200 Individual Speed Value 20
CV# 87 = 200 Individual Speed Value 21
CV# 88 = 200 Individual Speed Value 22
CV# 89 = 223 Individual Speed Value 23
CV# 90 = 255 Individual Speed Value 24
CV# 91 = 255 Individual Speed Value 25
CV# 92 = 255 Individual Speed Value 26
CV# 93 = 255 Individual Speed Value 27
CV# 94 = 255 Individual Speed Value 28
CV# 114 = 128 Dim Mask FO0-FO6
CV# 115 = 54 Uncoupler control
CV# 116 = 166 Automatic uncouple
CV# 121 = 1 Exponential acceleration
CV# 122 = 1 Exponential deceleration
CV# 127 = 32 Effects F1
CV# 128 = 36 Effects F2
CV# 132 = 80 Effects F6
CV# 137 = 200 Smoke generator at standstill
CV# 138 = 200 Smoke generator at cruising speed
CV# 139 = 255 Smoke generator at accelaration
CV# 152 = 1 Dim mask FO7-FO12, RiBi
CV# 154 = 18 ZIMO configuration bits 2 (binary)
CV# 158 = 8 Several sound bits + RailCom variants
CV# 159 = 48 Effects F7
CV# 163 = 255 Servo 1 right stop
CV# 167 = 255 Servo 2 right stop
CV# 181 = 12 Servo 1 - Function Assignment
CV# 182 = 12 Servo 2 - Function Assignment
CV# 186 = 128 Special panto 1
CV# 250 = 250 Decoder-ID 1
CV# 251 = 250 Decoder-ID 2
CV# 253 = 63 Decoder-ID 4
CV# 267 = 0 Chuff sound rate
CV# 271 = 0 Overlapping chuff beats
CV# 272 = 0 Drainage time
CV# 274 = 0 min. drainage downtime [0.1s]
CV# 275 = 255 Volume with no load slow travel
CV# 276 = 255 Volume with no load speed run
CV# 281 = 0 Threshold for full acceleration sound
CV# 282 = 0 Duration of the acceleration noise [0.1s]
CV# 284 = 0 Threshold for noise reduction in delay
CV# 286 = 255 Volume reduced driving noise during deceleration
CV# 287 = 75 Threshold for brake squeal
CV# 289 = 0 Thyristor Stepping effect
CV# 290 = 0 Thyristor pitch at medium speed
CV# 291 = 0 Thyristor pitch at maximum speed
CV# 292 = 0 Thyristor gear for medium speed
CV# 293 = 0 Thyristor volume at constant speed
CV# 294 = 0 Thyristor volume during acceleration
CV# 295 = 0 Thyristor Volume at delay trip
CV# 296 = 181 Electromotor largest volume
CV# 297 = 10 Electromotor: begin of audible noise
CV# 298 = 6 Electromotor: begin of full volume

CV# 299 = 70 Electromotor noise depending on the speed of the pitch
CV# 307 = 129 cornering squeal inputs
CV# 308 = 9 cornering squeal key
CV# 312 = 0 Drainage button
CV# 313 = 116 Mute button
CV# 314 = 25 Mute fade time
CV# 315 = 1 Random Z1 min interval
CV# 316 = 30 Random Z1 max interval
CV# 317 = 15 Random generator Z1 playback time
CV# 318 = 180 Random Z2 min interval
CV# 319 = 180 Random Z2 max interval
CV# 320 = 25 Random generator Z2 playback time
CV# 321 = 4 Random Z3 min interval
CV# 322 = 10 Random Z3 max interval
CV# 323 = 1 Random generator Z3 playback time
CV# 341 = 3 Switching input 1 Playback time
CV# 342 = 7 Switching input 2 Playback time
CV# 351 = 50 Smoke fan pwm at constant speed
CV# 355 = 35 Exhaust fan speed at standstill
CV# 359 = 0 Tap changer hight limit/loop time
CV# 361 = 0 Tap changer wainig time [0.1s]
CV# 363 = 0 Tap changer number of steps
CV# 365 = 60 Diesel-mechanical max. volume
CV# 366 = 16 Turbo max. volume
CV# 367 = 170 Turbo dependency on speed
CV# 368 = 100 Turbo dependency on acceleration
CV# 369 = 19 Minimum load for turbo
CV# 370 = 150 Turbo frequency increase
CV# 371 = 15 Turbo frequency decrease
CV# 372 = 255 Electromotor volume acceleration
CV# 373 = 181 Electromotor volume deceleration
CV# 376 = 255 Driving sound volume
CV# 380 = 10 Electrical brake key
CV# 381 = 77 Electrical brake minimum speed
CV# 382 = 255 Electrical brake maximum speed
CV# 383 = 100 Electrical brake pitch
CV# 384 = 175 Electrical brake threshold
CV# 395 = 110 maximal volume
CV# 396 = 27 Volume decrease key
CV# 397 = 28 Volume increase key
CV# 508 = 0 ZIMO Mapping dimming value 1-key
CV# 509 = 0 ZIMO Mapping dimming value 2-key
CV# 510 = 0 ZIMO Mapping dimming value 3-key
CV# 511 = 0 ZIMO Mapping dimming value 4-key
CV# 512 = 0 ZIMO Mapping dimming value 5-key
CV# 513 = 24 F1 Soundnumber
CV# 515 = 8 F1 information on loop
CV# 516 = 20 F2 soundnumber
CV# 519 = 22 F3 soundnumber
CV# 521 = 8 F3 information on loop
CV# 522 = 23 F4 soundnumber
CV# 531 = 26 F7 soundnumber
CV# 546 = 13 F12 soundnumber
CV# 547 = 128 F12 volume
CV# 549 = 14 F13 soundnumber
CV# 552 = 12 F14 soundnumber
CV# 553 = 64 F14 volume
CV# 554 = 8 F14 information on loop
CV# 577 = 8 soundnumber squeal
CV# 578 = 128 volume squeal
CV# 581 = 15 soundnumber starting whistle
CV# 585 = 11 Soundnumber electromotor
CV# 599 = 3 Soundnumber turbo
CV# 601 = 25 Soundnumber dynamic brake
CV# 603 = 21 cornering squeal sound number
CV# 604 = 181 cornering squeal volume
CV# 736 = 13 Soundnumber trigger 6
CV# 737 = 10 Trigger 6 to FO
CV# 738 = 20 Soundnumber swithing input 1
CV# 740 = 24 Soundnumber switching input 2
CV# 744 = 12 Soundnumber Z1
CV# 745 = 64 Volume Z1
CV# 746 = 8 Information on loop Z1
CV# 747 = 12 Soundnumber Z2
CV# 748 = 64 Volume Z2
CV# 749 = 8 Information on loop Z2
CV# 750 = 15 Soundnumber Z3
CV# 751 = 128 Volume Z3
CV# 752 = 64 Information on loop Z3
CV# 836 = 1 Sound configuration (binary)