

Alco PA with prime mover 244

16Bit
SOUND



Foto Wikipedia

The Prototype

The ALCO PA was a family of A1A-A1A diesel locomotives built to haul passenger trains. The locomotives were built in Schenectady, New York, in the United States by a partnership of the American Locomotive Company (ALCO) and General Electric (GE) between June 1946 and December 1953. Designed by General Electric's Ray Patten (along with their ALCO FA cousins), they were of a cab unit design; both cab-equipped lead A unit PA and cabless booster B unit PB models were built. While externally the PB models were slightly shorter than the PA model, they shared many of the same characteristics, both aesthetically and mechanically. However, they were not as reliable as EMD F-units.

ALCO's designation of P indicates that they were geared for higher speeds and passenger use, whereas the F designation marks these locomotives as being geared primarily for freight use. However, beyond this their design was largely similar - aside from the PA/PB's both being larger A1A-A1A types with an even more striking nose - and many railroads used PA and FA locomotives for both freight and passenger service.

Wikipedia

Sound Project Information

The sound project is made with genuine sound recordings of a prototype.

F14 reduces the diesel motor sound to idling while maintaining the same speed.

The locomotive has the Kick the Cars Effect programmed on F15. This sound is heard when the engineer sets the acceleration rpm's and then immediately opens the throttle all the way to the desired speed. The diesel roars until the speed is reached.

The Dynamic Brake Effect produces a loud fan noise. This effect can be switched on continuously with F17 or by quickly throttling back on your controller.

With F10 and F11, the electrically driven manual brake sound is activated. This effect can be activated after the engine is started, as can be heard on the prototype. It can also be activated before departure and before the locomotive is switched off, to be true to the prototype.

When F12 is activated, the uncoupling noise is heard and the uncoupling movement (pushing forward and then backing away) takes place. The release of an optional Kadee servo coupler 11221 is programmed to servo ports 1 and 2.

CVs 3, 4, 5 and 57, 154 and 158 have values which are very important for the correct functioning of the sound project. Changes in CVs 3 and 4 must be adapted to the inertia of the large volume diesel engine! Reduction of the value of CV5 cuts out noise which is supposed to be heard at higher speeds. The maximum speed is to be defined with CV 57 and not with CV5. Make changes very carefully, in small steps, and note all your changes as you go!

Users whose digital system does not have all 28 functions, or who wish 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, or invert functions! See <http://www.zimo.at/web2010/documents/Zimo%20Eingangsmapping.pdf>

The project is also available in the 16 Bit version for Zimo MS decoders.

Funktion	Installation	Function output	Sound effect
F0	Light on	FA 0v+0r	
F1	Bell		Bell
F2	Horn l-l-s-l		Highway Crossing
F3	Horn l		Horn sounds as long as key is pressed
F4	Horn s		Short blast of the horn
F5	Cab light	FA 5	
F6	Smoke generator	FA 6 u 2 + fan	Typical diesel smoke effects
F7			
F8	Sound on / off		Starter and then idling sound
F9	Wheels screeching on curves		Sound of wheels screeching on curves
F10	Applying the manual brake		Motorized brake
F11	Releasing the manual brake		Motorized brake
F12	Uncoupling	Servo 1 + 2 Fa 7	Uncoupling
F13	Coupling		Coupler closing
F14	Coasting		Engine idles
F15	Kick the cars		Diesel engine roars during acceleration
F16	Tunnel fader (muting)		Sound fades in or out in 2,5 sec
F17	Dynamic electric brake		Brake cooling fan can be heard all the time
F18	Locomotive brake		Braking and releasing
F19	Compressor		
F20	Rangiertaste		
F21			
F22	Marslight	FA1	Marseffekt
F23	Numberboards	FA2	
F24	Classificationlights	FA3	
F25	Bogielights	FA4	
F26			
F27	Volume -		
F28	Volume+		

Zufallsgeräusch	Geräusch	
Z1	Compressor	Always after the loco stops
Z2	Compressor	Sporadically during running
Z3		
Z4		

Schalteingang	Geräusch	Effekt
1	Horn	
2	Bell	

CVs die mit dem Reset gesetzt werden

CV# 3 = 22 Acceleration rate	CV# 353 = 32 Smoke heater max. operating time
CV# 4 = 25 Deceleration rate	CV# 359 = 0 Tap changer high limit/loop time
CV# 35 = 0 Function mapp. F1	CV# 361 = 0 Tap changer wainig time [0.1s]
CV# 36 = 0 Function mapp. F2	CV# 363 = 0 Tap changer number of steps
CV# 37 = 0 Function mapp. F3	CV# 366 = 17 Turbo max. volume
CV# 38 = 0 Function mapp. F4	CV# 367 = 170 Turbo dependency on speed
CV# 41 = 0 Function mapp. F7	CV# 368 = 111 Turbo dependency on acceleration
CV# 42 = 0 Function mapp. F8	CV# 369 = 40 Minimum load for turbo
CV# 43 = 0 Function mapp. F9	CV# 370 = 80 Turbo frequency increase
CV# 44 = 0 Function mapp. F10	CV# 371 = 10 Turbo frequency decrease
CV# 45 = 0 Function mapp. F11	CV# 374 = 14 Raising key
CV# 46 = 4 Function mapp. F12	CV# 376 = 255 Driving sound volume
CV# 57 = 120 Motor regulation: voltage reference	CV# 380 = 17 Electrical brake key
CV# 60 = 60 Dimming general	CV# 381 = 112 Electrical brake minimum speed
CV# 65 = 28 Sub-Vers. Number	CV# 382 = 255 Electrical brake maximum speed
CV# 114 = 127 Dim Mask FO0-FO6	CV# 383 = 71 Electrical brake pitch
CV# 115 = 66 Uncoupler control	CV# 384 = 200 Electrical brake threshold
CV# 116 = 145 Automatic uncouple	CV# 385 = 49 Electrical brake downhill
CV# 124 = 2 Shunting keys configuration (binary)	CV# 386 = 7 Electrical brake loop
CV# 127 = 4 Effects F1	CV# 387 = 255 Diesel - acceleration influence
CV# 132 = 80 Effects F6	CV# 388 = 255 Diesel- deceleration influence
CV# 137 = 153 Smoke generator at standstill	CV# 389 = 25 Diesel- acceleration limit
CV# 138 = 204 Smoke generator at cruising speed	CV# 391 = 70 Solo drive raise threshold
CV# 139 = 255 Smoke generator at acceleration	CV# 395 = 120 maximal volume
CV# 154 = 20 ZIMO configuration bits 2 (binary)	CV# 396 = 27 Volume decrease key
CV# 156 = 20 Shunting key accel./decel.	CV# 397 = 28 Volume increase key
CV# 158 = 104 Several sound bits + RailCom variants	CV# 430 = 22 ZIMO Mapping 1 F-key
CV# 159 = 48 Effects F7	CV# 432 = 1 ZIMO Mapping 1 A1 forw.
CV# 163 = 255 Servo 1 right stop	CV# 434 = 1 ZIMO Mapping 1 A1 rev.
CV# 167 = 255 Servo 2 right stop	CV# 436 = 23 ZIMO Mapping 2 F-key
CV# 181 = 12 Servo 1 - Function Assignment	CV# 438 = 2 ZIMO Mapping 2 A1 forw.
CV# 182 = 12 Servo 2 - Function Assignment	CV# 440 = 2 ZIMO Mapping 2 A1 rev.
CV# 280 = 255 Load influence for diesel locomotives	CV# 442 = 24 ZIMO Mapping 3 F-key
CV# 287 = 70 Threshold for brake squeal	CV# 444 = 3 ZIMO Mapping 3 A1 forw.
CV# 296 = 180 Electromotor largest volume	CV# 446 = 3 ZIMO Mapping 3 A1 rev.
CV# 297 = 20 Electromotor: begin of audible noise	CV# 448 = 25 ZIMO Mapping 4 F-key
CV# 298 = 5 Electromotor: begin of full volume	CV# 450 = 4 ZIMO Mapping 4 A1 forw.
CV# 299 = 120 Electromotor noise depending on the speed of the pitch	CV# 452 = 4 ZIMO Mapping 4 A1 rev.
CV# 307 = 128 cornering squeal inputs	CV# 513 = 31 F1 Soundnumber
CV# 308 = 9 cornering squeal key	CV# 514 = 91 F1 volume
CV# 311 = 0 General on/off button for functional noise	CV# 515 = 8 F1 information on loop
CV# 312 = 0 Drainage button	CV# 516 = 29 F2 soundnumber
CV# 313 = 116 Mute button	CV# 519 = 30 F3 soundnumber
CV# 314 = 25 Mute fade time	CV# 521 = 72 F3 information on loop
CV# 315 = 1 Random Z1 min interval	CV# 522 = 37 F4 soundnumber
CV# 316 = 10 Random Z1 max interval	CV# 540 = 26 F10 soundnumber
CV# 317 = 13 Random generator Z1 playback time	CV# 542 = 8 F10 information on loop
CV# 318 = 150 Random Z2 min interval	CV# 543 = 25 F11 soundnumber
CV# 319 = 150 Random Z2 max interval	CV# 545 = 72 F11 information on loop
CV# 320 = 30 Random generator Z2 playback time	CV# 546 = 22 F12 soundnumber
CV# 341 = 5 Switching input 1 Playback time	CV# 549 = 23 F13 soundnumber
CV# 342 = 5 Switching input 2 Playback time	CV# 564 = 33 F18 soundnumber
CV# 347 = 15 Solo driving	CV# 566 = 72 F18 information on loop
CV# 348 = 7 Solo driving parameters (binary)	CV# 567 = 34 F19 soundnumber
CV# 351 = 204 Smoke fan pwm at constant speed	CV# 568 = 64 F19 volume
	CV# 569 = 72 F19 information on loop

CV# 577 = 32 soundnumber squeal
CV# 599 = 35 Soundnumber turbo
CV# 601 = 27 Soundnumber dynamic brake
CV# 602 = 91 Volume dynamic brake
CV# 603 = 24 cornering squeal sound number
CV# 604 = 128 cornering squeal volume
CV# 740 = 31 Soundnumber switching input 2
CV# 741 = 91 Volume switching input 2
CV# 744 = 34 Soundnumber Z1
CV# 745 = 64 Volume Z1
CV# 746 = 8 Information on loop Z1
CV# 747 = 34 Soundnumber Z2
CV# 748 = 128 Volume Z2
CV# 749 = 64 Information on loop Z2
CV# 777 = 0
CV# 778 = 0
CV# 779 = 0
CV# 780 = 0