Product Highlights 2023

LokSound 5 - Sound...superdetailed!

LOKSOUND
EST. 1999

We offer every model railroader who wants to create the most authentic model railroad operation possible a real highlight with the new LokSound 5 decoders. Our newly developed, Fifth generation of LokSound, intelligently combines a sound module with a multi-protocol or DCC only Digital decoder. The best part is with LokSound decoders, not only can you operate just like the prototype, but it will sound just like the prototype too! This is made possible by our award-winning LokSound technology - the decoder that every other one has been compared to since its introduction in 1999. From the inventor of user programmable sound decoders.... ESU.

LokSound decoders are available in several versions, depending on the gauge used or Digital System:

LokSound 5 DCC

For North American model railroaders, we created the LokSound 5 DCC Decoder. With its standard size of 30 mm x 15.5 mm, it should find its place in almost every locomotive. It is a pure DCC Decoder, that supports RailComPlus and can also be used on DC layouts. Up to 14 functions are available – depending on the interface. Thanks to its extensive lighting and sound functions as well as its engine output power of 1,5A it is the perfect "all-round decoder" for your locomotives.

LokSound 5 micro DCC

The LokSound 5 micro is a small powerhouse: Its extremely small dimensions of only 21 mm x 10 mm will make sure it fits in almost all N scale locomotives. It is a pure DCC decoder that supports RailComPlus and can also be use on DC layouts. With up to 9 function outputs, you can finally also run smaller locomotives with prototypically equipped lighting functions. An external PowerPack can also be connected. The engine output of 0.75A is suitable for almost all uses in which little space is available. The LokSound 5 micro is always supplied with a standard-compliant Next18 interface. The decoder will include adapter cables connect to locos with other interfaces.

LokSound 5 L DCC

The LokSound 5 L finds its place in O Scale between the LokSound 5 and the LokSound 5 XL. With dimensions of just 51 mm x 25.5 mm, it is not only recommended for size 0 scale locomotives, but also for all other models where a LokSound 5 XL does not fit or is required. . It is a pure DCC decoder that supports RailComPlus and can also be use on DC layouts. The LokSound 5 L offers a motor output current of 3A and up to 17 function outputs as well as the possibility to connect two RC servos. Its dual power amplifier can drive two speakers. Thanks to the now integrated PowerPack, dirty rails are a thing of the past. The decoder is always supplied with pin headers and a matching adapter board.

LokSound 5

The LokSound 5 decoder is a true "Global player". In addition to DCC with RailComPlus®, it also understands M4®, Motorola® and Selectrix® and is therefore useful for those who require these additional features. LokSound 5 Decoders work on conventional DC and AC systems as well. LokSound 5 decoders come with an 11 mm x 15 mm "sugar cube" speaker and a customizable speaker box kit.

LokSound 5 micro

The LokSound 5 micro is a small powerhouse: despite its extremely small dimensions of only 21 mm x 10 mm, in addition to DCC with RailComPlus®, it also understands M4®, Motorola® and Selectrix® and can also be operated on analog DC and AC (!) systems. With up to 9 function outputs, you can finally also run smaller locomotives with prototypically equipped lighting functions. An external PowerPack can also be connected. The engine output of 0.75A is suitable for almost all uses in which little space is available. The LokSound 5 micro is always supplied with a standard-compliant Next18 interface. The decoder will include adapter cables connect to locos with other interfaces. The LokSound 5 micro decoder comes with an 11 mm x 15 mm "sugar cube" speaker and a a customizable speaker box kit.

LokSound 5 L

The LokSound 5 L finds its place in O Scale between the LokSound 5 and the LokSound 5 XL. With dimensions of just 51mm x 25.5mm, it is not only recommended for size 0 scale locomotives, but also for all other models where a LokSound 5 XL does not fit or is required. The LokSound 5 L offers a motor output current of 3A and up to 17 function outputs as well as the possibility to connect two RC servos. Its dual power amplifier can drive two speakers. Thanks to the now integrated PowerPack, dirty rails are a thing of the past. The decoder is always supplied with pin headers and a matching adapter board.

LokSound 5 XL

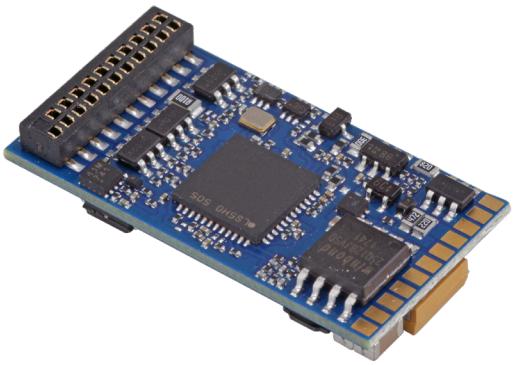
The LokSound 5 XL has been designed and optimized for the large gauges G and 1. The Dimensions of 55 mm x 41 mm have become standard for almost all gauge 1 and G Gauge models. The LokSound 5 XL with its motor current of 4A allows up to 19 outputs for special functions as well as connection possibilities for 4 additional RC servos hardly leaving any desire unanswered: the adventurous modeler can adapt his locos to the smallest detail of the model. With its integrated PowerPack, sound dropouts are a thing of the past, even in the garden….

The LokSound 5 XL is available in two versions: The version with screw terminals is for hardwiring, while the version with pin headers will work in almost all gauge 1 models from Märklin®, Kiss®, and KM-1®.

Variety of sounds

ESU as the market and technology leader in the sound field takes your demands on the sound very seriously. There are hundreds of different sound file variants are already available for the LokSound 5 decoder! ESU is constantly expanding this sound library and offers you all the sounds on our homepage for free download.

LokSound 5
LokSound 5 DCC



The LokSound 5 is the most important member of the LokSound family. Due to the combination of digital decoder and sound module on a printed circuit board, the decoder is only 30mm x15.5mm and can be installed in almost any locomotives of in H0, S, or 0 gauges if the max amperage draw is under 1.5 amp.

Because of different needs in our Global Market we have created 2 different versions of the LokSound V5, LokSound 5 DCC and the Multi-Protocol LokSound 5.

LokSound 5 DCC

The LokSound 5 DCC is made for the North American and Australian markets. It is a pure DCC Decoder, which supports RailComPlus and can also be used on DC layouts.

LokSound 5

In addition to be speaking DCC, Motorola®, Selectix®, and mfx/M4 digital languages, LokSound 5 decoders are offered with all common interfaces and always come with a 11x15mm "sugar cube" speaker and sound enclosure kit.

Modes

Like all family members, the LokSound5 is a true multiprotocol decoder. It masters the data format DCC as well as Motorola®, Selectrix® and M4. In the DCC format, 14 to 128 speed steps are as natural as 2- and 4-digit addresses and up to 32 functions. Thanks to RailComPlus®, the decoders log on fully automatically to a suitable digital central unit.

It masters all DCC programming modes and, thanks to RailCom®, the CV values on the main track can be read out with suitable control panels. For panels that can only program the CVs from 1-255, there are auxiliary registers.

Motorola® users benefit from up to 28 speed steps with 255 addresses. Three additional Motorola® addresses enable the triggering of 16 functions. A built-in programming mode also makes reprogramming possible with the venerable Control Unit 6021. The M4 protocol allows automatic logon to mfx® compatible panels.

The LokSound 5 decoder recognizes the Märklin® braking distances as well as ZIMO® HLU brake commands or the Lenz® ABC system. Braking with DCC brake modules or DC voltage is also possible. He also stops with a Selectrix® brake diode. An automatic ABC shuttle allows automatic commuting between two stations.

The LokSound 5 decoder can be used on analog DC and AC tracks.

Sound

The LokSound 5 decoder can play up to 10 channels simultaneously. Each channel can be resolved with up to 16 bit / 31250 kHz and finally offers hi-fi quality on your system. There is virtually no difference to the original more audible. A Class D audio power amplifier with up to 3W output powers the speakers, which may have between 4 ohms and 32 ohms impedance. The huge 128 Mbit sound storage provides enough capacity.

All individual sounds can be individually adjusted in volume. The super flexible Sound engine without rigid schedule allows the prototypical simulation of all imaginable locomotives. Three separately adjustable braking functions and two alternative load scenarios give you the maximum control over your Locos.

Features

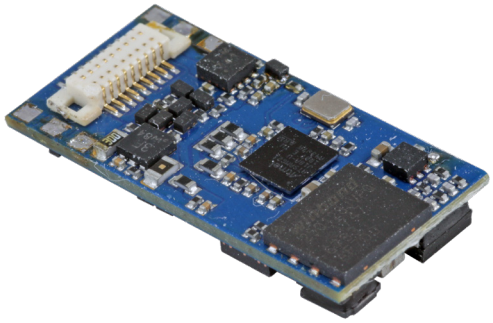
We know that you want your locomotives to be as realistic as possible. That's why we packed the LokSound 5 with function outputs. Depending on the interface version, each LokSound 5 decoder offers at least 10 amplified function outputs. For versions with PluX22 or 21MTC interface, 4 outputs are added to control servos or logic level outputs. Of course tons of lighting effects are also available. The brightness of each output can be set separately. The decoder handles the automatic on and off during uncoupling for ROCO®, Krois® and Telex® couplings. In order to keep compatible with the thousands of LokSound Selects and LokSound V4 decoders already on the market we made sure to add many of the most popular features of that Generation! This Includes the Full Throttle features, including the Famous Drive Hold!

Motor Control

The engine control of the LokSound 5 has again been fundamentally improved. A variably adjustable PWM clock frequency of 10kHz to 50kHz ensures especially in bell armature motors for a super quiet operation - The typical "humming" is a thing of the past. The load control can now be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the automatic decompression of the decoder to the motor. The LokSound 5 decoder delivers up to 1.5A motor current enough juice for older engines.

58420, LokSound 5 DCC »blank decoder«, 8-pin NEM 652, gauge: 0, H0	$119,99 (MSRP)
58429, LokSound 5 DCC »blank decoder«, 21 MTC NEM 6660, gauge: 0, H0	$119,99 (MSRP)
58410, LokSound 5 DCC/MM/SX/M4 »blank decoder«, 8-pin NEM 652, with Speaker 11x15mm, gauge: 0, H0	$134,99 (MSRP)
58412, LokSound 5 DCC/MM/SX/M4 »blank decoder«, PluX22, with speaker 11x15mm, gauge: 0, H0	$134,99 (MSRP)
58416, LokSound 5 DCC/MM/SX/M4 »blank decoder«, 6-pin NEM 651, with speaker 11x15mm, gauge: 0, H0	$134,99 (MSRP)
58419, LokSound 5 DCC/MM/SX/M4 »blank decoder«, 21 MTC NEM 6660, with speaker 11x15mm, gauge: 0, H0	$134,99 (MSRP)
58449, LokSound 5 DCC/MM/SX/M4 »blank decoder«, 21 MTC NEM 6660 »MKL«, gauge: 0, H0	$134,99 (MSRP)

LokSound 5 micro
LokSound 5 micro DCC



The LokSound 5 micro is a "little wonder": With only 21mmx10mm footprint, it is by far one of the smallest LokSound decoders we've ever built. This is perfect for N scale, but can also be used in small H0 locos. LokSound 5 micro decoders always have a Next18 interface and are offered with adapter plugs for all common interfaces.

Because of different needs in our Global Market we have created 2 different versions of the LokSound V5, LokSound 5 DCC and the Multi-Protocol LokSound 5.

LokSound 5 micro DCC

The LokSound 5 Micro DCC is made for the North American and Australian markets. It is a pure DCC Decoder, which supports RailComPlus and can also be used on DC layouts.

LokSound micro 5

In addition to be speaking DCC, Motorola, Selectix, and MFX/M4 digital languages, LokSound 5 Micro decoders are offered with all common interfaces and always come with a 11x15mm "sugar cube" speaker and sound enclosure kit.

Modes

The LokSound 5 micro is also a true multi-protocol decoder. It masters the data format DCC as well as Motorola®, Selectrix® and M4. In the DCC format, 14 to 128 speed steps are as natural as 2- and 4-digit addresses and up to 32 functions. Thanks to RailComPlus®, the decoders log on fully automatically to a suitable digital central unit.

It masters all DCC programming modes and, thanks to RailCom®, the CV values on the main track can be read out with suitable control panels. For panels that can only program the CVs from 1-255, there are auxiliary registers.

Motorola® users benefit from up to 28 speed steps with 255 addresses. Three additional Motorola® addresses enable the triggering of 16 functions. A built-in programming mode also makes reprogramming possible with the venerable Control Unit 6021. The M4 protocol allows automatic logon to mfx® compatible panels.

The LokSound 5 micro decoder recognizes the Märklin® braking distances as well as ZIMO® HLU brake commands or the Lenz® ABC system. Braking with DCC brake modules or DC voltage is also possible. He also stops with a Selectrix® brake diode. An automatic ABC shuttle allows automatic commuting between two stations. The LokSound 5 micro decoder can be used on analog DC and AC tracks (!).

Sound

The LokSound 5 micro decoder can play up to 10 channels simultaneously. Each channel can be resolved with up to 16 bit / 31250 kHz and finally offers hi-fi quality on your system. There is virtually no difference to the original more audible. A Class D audio power amplifier with up to 3W output powers the speakers, which may have between 4 ohms and 32 ohms impedance. The huge 128 Mbit sound storage provides enough capacity.

All individual sounds can be individually adjusted in volume. The superflexible Soundengine without rigid schedule allows the prototypical simulation of all imaginable rail vehicles. Three separately adjustable braking functions and two alternative load scenarios give you the maximum control over your vehicles.

Features

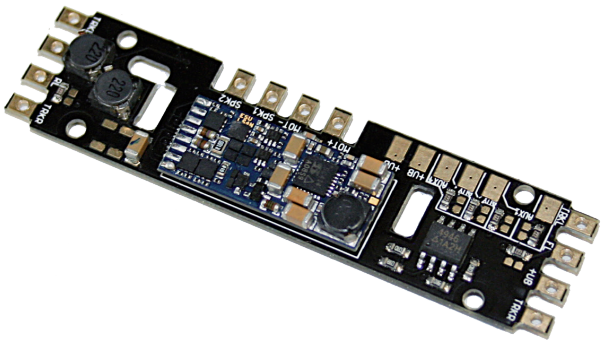
Despite its small size, the LokSound 5 micro has at least 6 amplified function outputs as well as a logic level output. There are two more logic level outputs on the Next18 interface, which can alternatively control RC servos. Of course tons of lighting effects are also available. The brightness of each output can be set separately. The decoder handles the automatic on and off during uncoupling for ROCO®, Krois® and Telex® couplings. In order to keep compatible with the thousands of LokSound Selects and LokSound V4 decoders already on the market we made sure to add many of the most popular features of that Generation! This Includes the Full Throttle features, including the Famous Drive Hold!

Motor Control

The engine control of the LokSound 5 has again been fundamentally improved. A variably adjustable PWM clock frequency of 10kHz to 50kHz ensures especially in bell armature motors for a super quiet operation - The typical "humming" is a thing of the past. The load control can now be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the automatic decompression of the decoder to the motor. The LokSound 5 decoder delivers up to 0.75A motor current enough juice for all intended usage scenarios.

58820, LokSound 5 micro DCC »blank decoder«, 8-pin NEM 652, gauge: N, TT	$124,99 (MSRP)
58823, LokSound 5 micro DCC »blank decoder«, open wire ends, gauge: N, TT	$124,99 (MSRP)
58828, LokSound 5 micro DCC »blank decoder«, Next18, gauge: N, TT	$124,99 (MSRP)
58810, LokSound 5 micro DCC/MM/SX/M4 »blank decoder«, 8-pin NEM 652, with Speaker 11x15mm, gauge: N, TT	$139,99 (MSRP)
58813, LokSound 5 micro DCC/MM/SX/M4 »blank decoder«, open wire ends, with speaker 11x15mm, gauge: N, TT	$139,99 (MSRP)
58814, LokSound 5 micro DCC/MM/SX/M4 »blank decoder«, PluX16, with Speaker 11x15mm, gauge: N, TT	$139,99 (MSRP)
58816, LokSound 5 micro DCC/MM/SX/M4 »blank decoder«, 6-pin NEM 651, with speaker 11x15mm, gauge: N, TT	$139,99 (MSRP)
58818, LokSound 5 micro DCC/MM/SX/M4 »blank decoder«, Next18, with speaker 11x15mm, gauge: N, TT	$139,99 (MSRP)

LokSound 5 DCC Direct



With its unique design the LokSound 5 Direct DCC can easily replace boards that provide poor motor control, low volume, or generally inferior sound. Not only will the decoder work fine with most factory installed speakers, but it will sound even better with our new 11x15mm "sugar cube" speaker and sound enclosure kits.

Modes

The LokSound 5 DCC is made for the North American and Australian markets. It is a pure DCC Decoder, which supports RailComPlus and can also be used on DC layouts. With its size of 0.67x2.72inch/17x69mm The V5 Direct DCC will fit in almost all of the popular North American and Australian HO manufacutrers locomotives.

In the DCC format, 14 to 128 speed steps are as natural as 2- and 4-digit addresses and up to 32 functions. Thanks to RailComPlus®, the decoders log on fully automatically to a suitable digital central unit.

It masters all DCC programming modes and, thanks to RailCom®, the CV values on the main track can be read out with suitable control panels. For panels that can only program the CVs from 1-255, there are auxiliary registers.

Braking with DCC brake modules or DC voltage is also possible. An automatic ABC shuttle allows automatic commuting between two stations.

The LokSound 5 decoder can also be used on analog DC tracks.

Sound

The LokSound 5 decoder can play up to 10 channels simultaneously. Each channel can be resolved with up to 16 bit / 31250 kHz and finally offers hi-fi quality on your system. There is virtually no difference to the original more audible. A Class D audio power amplifier with up to 3W output powers the speakers, which may have between 4 ohms and 32 ohms impedance. The huge 128 Mbit sound storage provides enough capacity.

All individual sounds can be individually adjusted in volume. The super flexible Sound engine without rigid schedule allows the prototypical simulation of all imaginable locomotives. Three separately adjustable braking functions and two alternative load scenarios give you the maximum control over your Locos.

Features

We know that you want your locomotives to be as realistic as possible. That's why we packed the LokSound 5 with function outputs. Depending on the interface version, each LokSound 5 decoder offers at least 8 amplified function outputs. Of course tons of lighting effects are also available. The brightness of each output can be set separately. The decoder handles the automatic on and off during uncoupling for ROCO®, Krois® and Telex® couplings. In order to keep compatible with the thousands of LokSound Selects and LokSound V4 decoders already on the market we made sure to add many of the most popular features of that Generation! This Includes the Full Throttle features, including the Famous Drive Hold!

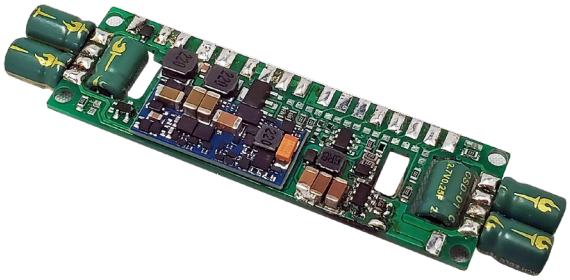
Motor Control

The engine control of the LokSound 5 has again been fundamentally improved. A variably adjustable PWM clock frequency of 10kHz to 50kHz ensures especially in bell armature motors for a super quiet operation - The typical "humming" is a thing of the past. The load control can now be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the automatic decompression of the decoder to the motor.

The LokSound 5 decoder delivers up to 1.5A motor current enough juice for older engines.

58821, LokSound 5 DCC Direct »blank decoder«, gauge: 0, H0 $129,99 (MSRP)

LokSound 5 DCC Direct with PowerPack



With its unique design LokSound 5 DCC Direct, with integrated PowerPack can easily replace boards that provide poor motor control, low volume, or generally inferior sound. Not only will the decoder work fine with most factory installed speakers, but it will sound even better with our new 11x15mm “sugar cube” speaker and sound enclosure kits. Worried about dead spots or pesky yard ladder switches? There’s no need as we’ve built in ESU PowerPack direct into the decoder!

Modes

The LokSound 5 DCC is made for the North American and Australian markets. It is a pure DCC Decoder, which supports RailComPlus and can also be used on DC layouts. With its size of 0.67x2.72 inch / 17x69 mm the LokSound 5 DCC Direct, with integrated PowerPack will fit in almost all of the popular North American and Australian H0 manufacturers locomotives.

In the DCC format, 14 to 128 speed steps are as natural as 2- and 4-digit addresses and up to 32 functions. Thanks to RailComPlus®, the decoders log on fully automatically to a suitable digital central unit.

It masters all DCC programming modes and, thanks to RailCom®, the CV values on the main track can be read out with suitable control panels. For panels that can only program the CVs from 1-255, there are auxiliary registers.

Braking with DCC brake modules or DC voltage is also possible. An automatic ABC shuttle allows automatic commuting between two stations.

The LokSound 5 DCC Direct, with integrated PowerPack decoder can also be used on analog DC tracks.

Sound

The LokSound 5 DCC Direct, with integrated PowerPack can play up to 10 channels simultaneously. Each channel can be resolved with up to 16 bit / 31250 kHz and finally offers hi-fi quality on your system. There is virtually no difference to the original more audible. A Class D audio power amplifier with up to 3W output powers the speakers, which may have between 4 ohms and 32 ohms impedance. The huge 128 Mbit sound storage provides enough capacity.

All individual sounds can be individually adjusted in volume. The super flexible Sound engine without rigid schedule allows the prototypical simulation of all imaginable locomotives. Three separately adjustable braking functions and two alternative load scenarios give you the maximum control over your Locos.

Features

We know that you want your locomotives to be as realistic as possible. That’s why we packed the LokSound 5 DCC Direct, with integrated PowerPack with function outputs. Depending on the interface version, the LokSound 5 DCC Direct with integrated PowerPack decoder offers at 10 amplified function outputs. Of course tons of lighting effects are also available. The brightness of each output can be set separately.

In order to keep compatible with the thousands of LokSound Selects and LokSound V4 decoders already on the market we made sure to add many of the most popular features of that Generation! This Includes the Full Throttle features, including the Famous Drive Hold!

Motor Control

The engine control of the LokSound 5 DCC Direct, with integrated PowerPack has again been fundamentally improved. A variably adjustable PWM clock frequency of 10kHz to 50kHz ensures especially in bell armature motors for a super quiet operation - The typical “humming” is a thing of the past. The load control can now be adapted to difficult cases with up to 10 CVs. The unique “Auto tune” function allows the automatic decompression of the decoder to the motor.

The LokSound 5 DCC Direct, with integrated PowerPack decoder delivers up to 1.5A motor current enough juice for older engines.

Energy Storage

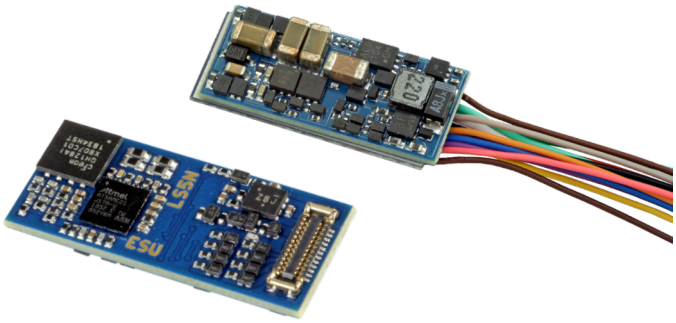
The LokSound 5 DCC Direct, with integrated PowerPack reliably supplies energy to your locomotive when traversing dirty track or long turnout ladders.

With its energy storage (1 Farad capacity) the unit supplies power to all light and motor functions as well as to the sound module. Subject to the energy consumption of your model it may continue to move for up to three seconds.

The on board PowerPack incorporates an integral charging circuit controlled by the decoder. Because of this there are no limitations or need to disconnect it during programming like some non-ESU “keep-alive” devices. In order to avoid an undue load on the booster in case there are several models in the same booster sector, the charging current is limited.

58921, LokSound 5 DCC Direct, integrated PowerPack »blank decoder«, gauge: 0, H0 $154,99 (MSRP)

LokSound 5 Nano DCC



With the LokSound 5 Nano DCC, ESU has succeeded in developing an even smaller LokSound decoder: With only 19.6 mm x 8.5 mm x 3.2 mm, it is the smallest LokSound decoder we have ever built. Thus, it should really be used in all vehicles of nominal sizes N and TT.

The LokSound 5 Nano DCC decoder is a pure DCC decoder with open cable ends for free wiring. The LokSound 5 Nano DCC is made for the North American and Australian markets. It is a pure DCC Decoder, which supports RailComPlus and can also be used on DC layouts. Please note the LokSound 5 DCC decoder does not come with a speaker.

Modes

The LokSound 5 Nano is a "pure-bred" DCC decoder. 14 to 128 driving steps are as self-evident as 2- and 4-digit addresses. Up to 32 functions can be triggered. Thanks to RailComPlus®, the decoders register fully automatically at a suitable digital center.It masters all DCC programming modes and thanks to RailCom® the CV values can be read out on the main track with suitable control panels. Auxiliary registers exist for control panels that can only program the CVs from 1-255.

The LokSound 5 Nano Decoder detects the Märklin® brake distances as well as ZIMO® HLU / ZACK commands or the Lenz® ABC system. Braking with DCC brake blocks or with equal voltage is also possible. In addition, it also stops with a Selectrix® brake diode. An automatic ABC pen train allows automatic commuting between two stations.

The LokSound 5 Nano can be used on analog DC webs.

The decoder switches "on-the-fly" fully automatically between operating modes. Most of the time, nothing needs to be adjusted.

Sound

The LokSound 5 Nano Decoder can play up to 12 channels simultaneously. Each channel can be resolved with up to 16 bits / 31250 kHz and offers hi-fi quality on your system. There is virtually no difference to the original audible anymore. A Class-D audio output with up to 3W output power controls the speakers, which may have between 4 ohms and 32 ohms impedance. A 128 Mbit sound memory provides enough capacity. All individual noises can be adjusted individually in the volume. The super-flexible sound engine without a rigid schedule allows the exemplary simulation of all conceivable rail tracks.

Functions

Despite its small size, the LokSound 5 Nano has 6 reinforced function outputs as well as a logic level output as a solder pad. All important lighting functions are available. The brightness of each output can be set separately. The decoder controls the automatic start-up and disconnection when uncoupling for ROCO®, Krois® and Märklin telex ® couplings.

Motor Control

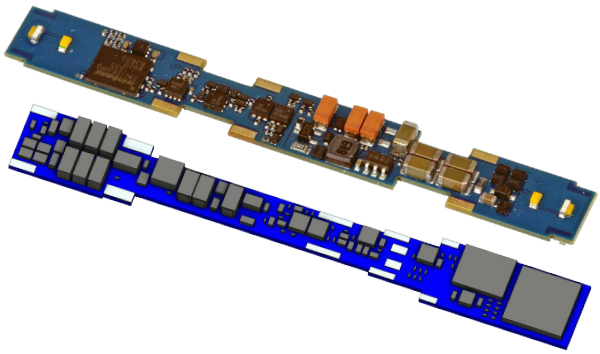
The motor control of the LokSound 5 Nano has a variable PWM clock frequency from 10kHz to 50kHz, which ensures super-quiet operation, especially for bell anchor motors – the typical "hum" is a thing of the past. The load control can be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the decoder to be automatically measured against the motor. The LokSound 5 Nano DCC Direct Decoder delivers up to 0.75A motor power.

Protection

Of course, the outputs are protected against overload. We want you to enjoy your decoder for as long as possible.

58923, LokSound 5 Nano DCC »blank decoder«, single wires, gauge: N, TT $124,99 (MSRP)
58925, LokSound 5 Nano DCC »blank decoder«, E24 interface, gauge: N, TT $124,99 (MSRP)

LokSound 5 micro DCC Direct



The LokSound 5 micro DCC Direct has been specially developed for installation in N gauge locomotives of the Atlas and Intermountain brands: it can be inserted directly instead of the analog board installed there as standard. However, the decoder can also be used for similar models from other manufacturers at your own discretion.

The LokSound 5 micro DCC Atlas Legacy is also a "direct style decoder developed for early (before 2016) Atlas, Intermountain (and others). The decoder was made for locos produced before sound was added during production. This replaces the popular ESU 73100 Select Direct Micro.

Both the LokSound 5 micro DCC Direct/Atlas Legacy with their dimensions of 66.0mm x 8.2mm are pure DCC decoders and come without a loudspeaker.

Modes

The LokSound 5 micro DCC Direct/Atlas Legacy are both "pure-bred" DCC decoders. 14 to 128 driving steps are as self-evident as 2- and 4-digit addresses. Up to 32 functions can be triggered. Thanks to RailComPlus®, the decoders log in fully automatically to a suitable digital center. It masters all DCC programming modes and thanks to RailCom® the CV values can be read out on the main track with suitable control panels. Auxiliary registers exist for control panels that can only program the CVs from 1-255.

The LokSound 5 micro DCC Direct/Atlas Legacy Decoders detect the Märklin® brake distances as well as ZIMO® HLU / ZACK commands or the Lenz® ABC system. Braking with DCC brake blocks or dc voltage is also possible. In addition, it also stops with a Selectrix® brake diode. An automatic ABC commuter train allows automatic commuting between two stations.

The LokSound 5 micro DCC Direct/Atlas Legacy decoders can be used on analog DC layouts.

The decoders switch "on-the-fly" fully automatically between operating modes. Most of the time, nothing needs to be adjusted.

Sound

The LokSound 5 micro DCC Direct/Atlas Legacy decoders can play up to 12 channels simultaneously. Each channel can be resolved with up to 16 bits / 31250 kHz and offers hi-fi quality on your system. There is virtually no difference to the original audible anymore. A Class-D audio output stage with up to 3W output power controls the speakers, which have between 4 ohms and 32 ohms impedance. A 128 Mbit sound memory provides enough capacity. All individual noises can be adjusted individually in the volume. The super-flexible sound engine without a rigid schedule allows the exemplary simulation of all conceivable rail tracks.

Functions

The LokSound 5 micro DCC Direct/Atlas Legacy decoders have up to 10 directly soldered LEDs. Two of them are intended for front and rear head lighting, two more are connected to the AUX3 and AUX4 outputs to switch e.g. number boards. A further 6 LEDs on the bottom are intended for ditch lights, but can also be used for other lighting purposes on request. All important lighting functions are available. The brightness of each output can be set separately.

Motor Control

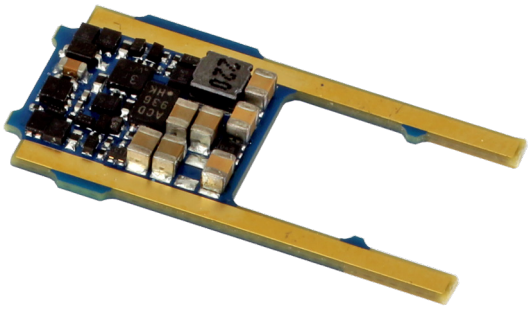
The motor control of the LokSound 5 micro DCC Direct/Atlas Legacy decoders have a variable PWM clock frequency from 10kHz to 50kHz, which ensures super- quiet operation, especially for bell anchor motors – the hitherto typical "hum" is a thing of the past. The load control can be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the decoder to be automatically measured against the motor. The LokSound 5 micro DCC Direct/Atlas Legacy decoders deliver up to 0.9A motor power.

Protection

Of course, the outputs are protected against overload. We want you to enjoy your decoder for as long as possible.

58721, LokSound 5 micro DCC Direct »blank decoder«, gauge: N $124,99 (MSRP)
58751, LokSound 5 micro DCC Direct Atlas Legacy »blank decoder«, gauge: N $124,99 (MSRP)

LokSound 5 micro DCC Kato



The LokSound 5 micro DCC Direct Kato Japan has been specially developed for installation in Kato-branded N gauge locomotives: in many European and Japanese locomotives of this manufacturer, the ser decoder can be installed directly below the engine instead of the analog board installed as standard. Finally, these models can also be easily retrofitted with a LokSound decoder.

The LokSound 5 micro DCC Direct Kato Japan with its dimensions of 27.6mm x 14.1mm x 3mm is a pure DCC decoder and comes without a loudspeaker.

Modes

The LokSound 5 micro DCC Direct Kato Japan is a "pure-bred" DCC decoder. 14 to 128 driving steps are as self-evident as 2- and 4-digit addresses. Up to 32 functions can be triggered. Thanks to RailComPlus®, the decoders log in fully to a suitable digital center.It masters all DCC programming modes and thanks to RailCom® the CV values can be read out on the main track with suitable control panels. Auxiliary registers exist for control panels that can only program the CVs from 1-255.

The LokSound 5 micro DCC Direct Kato Japan Decoder detects the Märklin® brake distances as well as ZIMO® HLU / ZACK commands or the Lenz® ABC system. Braking with DCC brake blocks or dc voltage is also possible. In addition, it also stops with a Selectrix® brake diode. An AUTOMATIC ABC commuter train allows automatic commuting between two stations.

The LokSound 5 micro DCC Direct Kato Japan can be used on analog DC webs.The decoder switches "on-the-fly" fully automatically between operating modes. Most of the time, nothing needs to be adjusted.

Sound

The LokSound 5 micro DCC Direct Kato Japan Decoder can play up to 12 channels simultaneously. Each channel can be resolved with up to 16 bits / 31250 kHz and offers hi-fi quality on its system. There is virtually no difference to the original audible anymore. A Class-D audio output with up to 3W output power controls the speakers, which can have between 4 ohms and 32 ohms impedance. A 128 Mbit sound memory provides enough capacity.

All individual noises can be adjusted individually in the volume. The super-flexible sound engine without a rigid schedule allows the exemplary simulation of all conceivable rail tracks.

Functions

Although the LokSound 5 micro DCC Direct Kato Japan is normally installed in the motor car of a drive car set, three reinforced function outputs for lighting are available at their own discretion. All important lighting functions are available. The brightness of each output can be set separately.

Motor Control

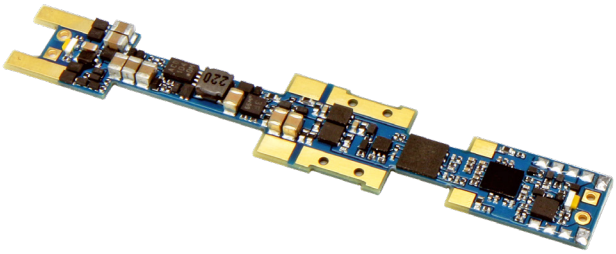
The motor control of the LokSound 5 micro DCC Direct Kato Japan has a variable PWM clock frequency from 10kHz to 50kHz, which ensures a super-quiet drive, especially for bell anchor motors – the typical "hum" is a thing of the past. The load control can be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the decoder to be automatically measured against the motor. The LokSound 5 micro DCC Direct Kato Japan Decoder delivers up to 0.9A motor power.

Protection

Of course, the outputs are protected against overload. We want you to enjoy your decoder for as long as possible.

58731, LokSound 5 micro DCC Kato »blank decoder«, gauge: N $124,99 (MSRP)

LokSound 5 micro DCC Kato USA



The LokSound 5 micro DCC Direct Kato USA has been specially developed for installation in N gauge locomotives of the Kato USA brand: Most diesel locomotives of this manufacturer come with only a common DC lighting board. Finally, these models can also be easily retrofitted with a LokSound decoder.

The LokSound 5 micro DCC Direct Kato USA with its dimensions of 60.0mm x 10.1mm is a pure DCC decoder and comes without a loudspeaker.

Modes

The LokSound 5 micro DCC Direct Kato USA is a "pure-bred" DCC decoder. 14 to 128 driving steps are as self-evident as 2- and 4-digit addresses. Up to 32 functions can be triggered. Thanks to RailComPlus®, the decoders log in fully to a suitable digital center.It masters all DCC programming modes and thanks to RailCom® the CV values can be read out on the main track with suitable control panels. Auxiliary registers exist for control panels that can only program the CVs from 1-255.

The LokSound 5 micro DCC Direct Kato USA Decoder detects the Märklin® brake distances as well as ZIMO® HLU / ZACK commands or the Lenz® ABC system. Braking with DCC brake blocks or dc voltage is also possible. In addition, it also stops with a Selectrix® brake diode. An AUTOMATIC ABC commuter train allows automatic commuting between two stations.

The LokSound 5 micro DCC Direct Kato USA can be used on analog DC webs. The decoder switches "on-the-fly" fully automatically between operating modes. Most of the time, nothing needs to be adjusted.

Sound

The LokSound 5 micro DCC Direct Kato USA Decoder can play up to 12 channels simultaneously. Each channel can be resolved with up to 16 bits / 31250 kHz and offers hi-fi quality on its system. There is virtually no difference to the original audible anymore. A Class-D audio output with up to 3W output power controls the speakers, which can have between 4 ohms and 32 ohms impedance. A 128 Mbit sound memory provides enough capacity.

All individual noises can be adjusted individually in the volume. The super-flexible sound engine without a rigid schedule allows the exemplary simulation of all conceivable rail tracks.

Functions

Despite its compact dimensions, the LokSound 5 micro DCC Direct Kato USA is equipped with an enormous number of function outputs. Two directly soldered SMD LEDs are designed for front and rear front and rear head lighting. For older models, two wired LEDs can alternatively be soldered and switched separately. Three further reinforced function outputs are also available. All important lighting functions are available. The brightness of each output can be set separately.

Motor Control

The motor control of the LokSound 5 micro DCC Direct Kato USA has a variable PWM clock frequency from 10kHz to 50kHz, which ensures super-quiet operation, especially for bell anchor motors – the typical "hum" is a thing of the past. The load control can be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the decoder to be automatically measured against the motor. The LokSound 5 micro DCC Direct Kato USA decoder delivers up to 0.9A motor power.

Operational reliability

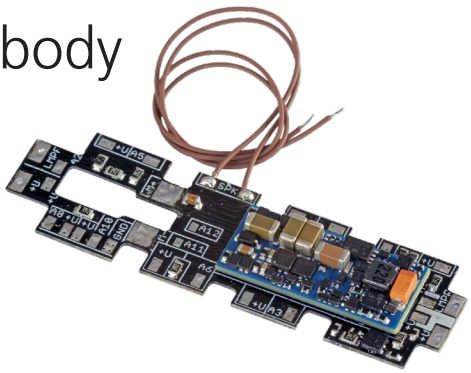
A PowerPack can be connected to the LokSound 5 micro DCC Direct Kato USA on request to bridge dirty rail sections.

Protection

Of course, the outputs are protected against overload. We want you to enjoy your decoder for as long as possible.

58741, LokSound 5 micro DCC Kato USA »blank decoder«, gauge: N $124,99 (MSRP)

LokSound 5 micro DCC Direct Kato USA Widebody



The LokSound 5 micro DCC Direct Kato USA Widebody has been specially developed for installation in wide body N gauge locomotives of the Kato USA brand: Most diesel locomotives of this manufacturer come with only a common DC lighting board. Finally, these models can also be easily retrofitted with a LokSound decoder.

The LokSound 5 micro DCC Direct Kato USA Widebody with its dimensions of 47.5mm x 14mm x 4.5mm is a pure DCC decoder and comes without a loudspeaker.

Modes

The LokSound 5 micro DCC Direct Kato USA Widebody is a "pure-bred" DCC decoder. 14 to 128 driving steps are as self-evident as 2- and 4-digit addresses. Up to 32 functions can be triggered. Thanks to RailComPlus®, the decoders log in fully to a suitable digital center. It masters all DCC programming modes and thanks to RailCom® the CV values can be read out on the main track with suitable control panels. Auxiliary registers exist for control panels that can only program the CVs from 1-255.

The LokSound 5 micro DCC Direct Kato USA Widebody Decoder detects the Märklin® brake distances as well as ZIMO® HLU / ZACK commands or the Lenz® ABC system. Braking with DCC brake blocks or dc voltage is also possible. In addition, it also stops with a Selectrix® brake diode. An automatic ABC commuter train allows automatic commuting between two stations.

The LokSound 5 micro DCC Direct Kato USA Widebody can be used on analog DC webs. The decoder switches "on-the-fly" fully automatically between operating modes. Most of the time, nothing needs to be adjusted.

Sound

The LokSound 5 micro DCC Direct Kato USA Widebody Decoder can play up to 12 channels simultaneously. Each channel can be resolved with up to 16 bits / 31250 kHz and offers hi-fi quality on its system. There is virtually no difference to the original audible anymore. A Class-D audio output with up to 3W output power controls the speakers, which can have between 4 ohms and 32 ohms impedance. A 128 Mbit sound memory provides enough capacity. All individual noises can be adjusted individually in the volume. The super-flexible sound engine without a rigid schedule allows the exemplary simulation of all conceivable rail tracks.

Functions

Despite its compact dimensions, the LokSound 5 micro DCC Direct Kato USA Widebody is equipped with 12(!) function outputs. All important lighting functions are available. The brightness of each output can be set separately.

Motor Control

The motor control of the LokSound 5 micro DCC Direct Kato USA Widebody has a variable PWM clock frequency from 10kHz to 50kHz, which ensures super-quiet operation, especially for bell anchor motors – the typical "hum" is a thing of the past. The load control can be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the decoder to be automatically measured against the motor. The LokSound 5 micro DCC Direct Kato USA decoder delivers up to 0.9A motor power.

Operational reliability

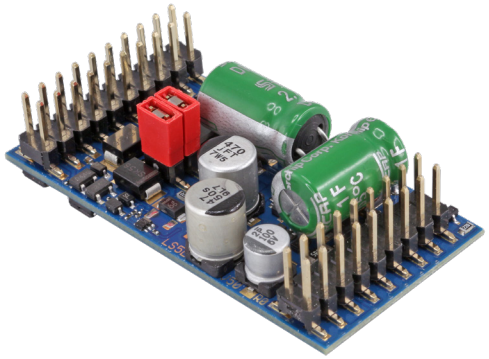
A PowerPack can be connected to the LokSound 5 micro DCC Direct Kato USA Widebody on request to bridge dirty rail sections.

Protection

Of course, the outputs are protected against overload. We want you to enjoy your decoder for as long as possible.

58941, LokSound 5 micro DCC Direct Kato USA Widebody »blank decoder«, gauge: N $129,99 (MSRP)

LokSound 5 L
LokSound 5 L DCC



The LokSound 5 L finds its place in O Scale between the LokSound 5 and the LokSound 5 XL. With dimensions of just 51mm x 25.5mm, it is not only recommended for size 0 scale locomotives, but also for all other models where a LokSound 5 XL does not fit or is required.

The LokSound 5 L offers a motor output current of 3A and up to 17 function outputs as well as the possibility to connect two RC servos. Its dual power amplifier can drive two speakers. Thanks to the now integrated PowerPack, dirty rails are a thing of the past. The decoder is always supplied with pin headers and a matching adapter board.

The LokSound 5 L is always equipped with pin headers and is delivered ex works with an adapter board that has solder termination points.

Because of different needs in our Global Market we have created 2 different versions of the LokSound V5 L, LokSound 5 L DCC and the Multi-Protocol LokSound 5 L.

LokSound 5 L DCC

The LokSound 5 L DCC is made for the North American and Australian markets. It is a pure DCC Decoder, which supports RailComPlus and can also be used on DC layouts.

LokSound 5 L

The LokSound L "Speaks" DCC, Motorola, Selectix, and MFX/M4 digital language.

Modes

Like all family members, the LokSound 5 L is a true multiprotocol decoder. He masters the data format DCC as well as Motorola®, Selectrix® and M4. In the DCC format, 14 to 128 speed steps are as natural as 2- and 4-digit addresses and up to 32 functions. Thanks to RailComPlus®, the decoders log on fully automatically to a suitable digital central unit.

It masters all DCC programming modes and, thanks to RailCom®, the CV values on the main track can be read out with suitable control panels. For panels that can only program the CVs from 1-255, there are auxiliary registers.

Motorola® users benefit from up to 28 speed steps with 255 addresses. Three additional Motorola® addresses enable the triggering of 16 functions. A built-in programming mode also makes reprogramming possible with the venerable Control Unit 6021.

The M4 protocol allows automatic logon to mfx® compatible panels.

The LokSound 5 L decoder recognizes the Märklin® braking distances as well as ZIMO® HLU brake commands or the Lenz® ABC system. Braking with DCC brake modules or DC voltage is also possible. He also stops with a Selectrix® brake diode. An automatic ABC shuttle allows automatic commuting between two stations.

The LokSound 5 L decoder can be used on analog DC and AC tracks.

Sound

The LokSound 5 L decoder can play up to 10 channels simultaneously. Each channel can be resolved with up to 16 bit / 31250 kHz and finally offers hi-fi quality on your system. There is virtually no difference to the original more audible. A dual Class-D audio power amplifier with up to two times 3W output powers the speakers, which may have between 4 ohms and 32 ohms impedance. The huge 128 Mbit sound storage provides enough capacity.

All individual sounds can be individually adjusted in volume. The super flexible Sound engine without rigid schedule allows the prototypical simulation of all imaginable rail vehicles. Three separately adjustable braking functions and two alternative load scenarios give you the maximum control over your vehicles.

Features

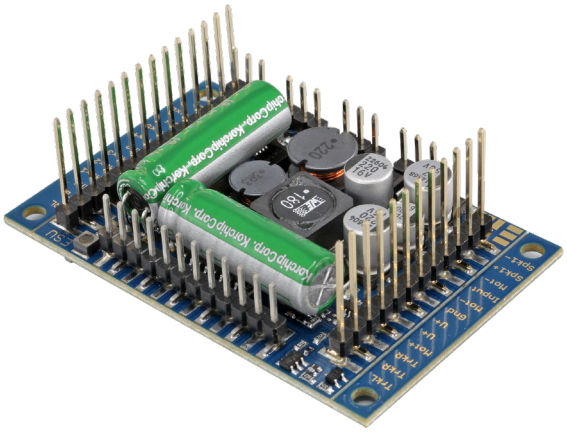
Each LokSound 5 L decoder comes with 11 amplified function outputs. In addition, there are 6 more logic level outputs available, which can also control (2 pieces) RC servos or SUSI expansion modules on request. Of course tons of lighting effects are also available. The brightness of each output can be set separately. The decoder handles the automatic on and off during uncoupling for ROCO®, Krois® and Telex® couplings. 4 sensor inputs can trigger functions on request. In order to keep compatible with the thousands of LokSound Selects and LokSound V4 decoders already on the market we made sure to add many of the most popular features of that Generation! This Includes the Full Throttle features, including the Famous Drive Hold!

Motor Control

The engine management of the LokSound 5 L has again been fundamentally improved. A variably adjustable PWM clock frequency of 10kHz to 50kHz ensures especially in bell armature motors for a super quiet operation - The typical "humming" is a thing of the past. The load control can now be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the automatic decompression of the decoder to the motor. The LokSound 5 L Decoder delivers enough juice with up to 3.0A motor current.

58325, LokSound 5 L DCC »blank decoder«, Pinheader, gauge: 0 — $194,99 (MSRP)
58315, LokSound 5 L DCC/MM/SX/M4 »blank decoder«, Pinheader, gauge: 0 — $214,99 (MSRP)

LokSound 5 XL



The LokSound 5 XL decoder is an extremely powerful decoder! It must be as it is intended for use in your garden railway or 1/G gauge locomotives. Its integrated, power-adapted PowerPack ensures safe operation even on dirty tracks.

The LokSound 5 XL measures 51mm x 40 mm and is produced in two variants: In addition to a variant with robust screw terminals for retrofitting even in older models, there is a version with pin headers. This decoder fits into all locomotives in which an older LokSound XL decoder was installed.

Modes

Like all family members, the LokSound 5 XL is a true multi-protocol decoder. It masters the data format DCC as well as Motorola®, Selectrix® and M4. In the DCC format, 14 to 128 speed steps are as natural as 2- and 4-digit addresses and up to 32 functions. Thanks to RailComPlus®, the decoders log on fully automatically to a suitable digital central unit. The LGB® chain control can trigger the function keys correctly with older LGB® controllers.

The decoder controls all DCC programming modes and, thanks to RailCom®, the CV values on the main track can be read out with suitable control panels. For panels that can only program the CVs from 1-255, there are auxiliary registers.

Motorola® users benefit from up to 28 speed steps with 255 addresses. Three additional Motorola® addresses enable the triggering of 16 functions. A built-in programming mode also makes reprogramming possible with the venerable Control Unit 6021.

The M4 protocol allows automatic logon to mfx® compatible panels.

The LokSound 5 XL decoder recognizes the Märklin® braking distances as well as ZIMO® HLU brake commands or the Lenz® ABC system. Braking with DCC brake modules or DC voltage is also possible. He also stops with a Selectrix® brake diode. An automatic ABC shuttle allows automatic commuting between two stations.

The LokSound 5 XL decoder can be used on analog DC and AC tracks.

Sound

The LokSound 5 XL decoder can play up to 10 channels simultaneously. Each channel can be resolved with up to 16 bit / 31250 kHz and finally offers hi-fi quality on your system. There is virtually no difference to the original audible anymore. A dual Class-D audio power amplifier with up to two times 6W output powers the speakers, which may have between 4 ohms and 32 ohms impedance. The volume can be controlled separately with two optional potentiometers. The huge 128 Mbit sound storage provides enough capacity.

All individual sounds can be individually adjusted in volume. The super flexible Sound engine without rigid schedule allows the prototypical simulation of all imaginable rail vehicles. Three separately adjustable braking functions and two alternative load scenarios give you the maximum control over your vehicles.

Features

Each LokSound 5 XL decoder is equipped with 12 amplified function outputs. In addition, there are 7 additional logic level outputs available, which can also control (4 pieces) RC servos and SUSI expansion modules on request. Of course tons of lighting effects are also available. The brightness of each output can be set separately. The decoder handles the automatic on and off during uncoupling for ROCO®, Krois® and Telex® couplings. 3 sensor inputs can trigger functions on request. In order to keep compatible with the thousands of LokSound Selects and LokSound V4 decoders already on the market we made sure to add many of the most popular features of that Generation! This Includes the Full Throttle features, including the Famous Drive Hold!

Motor Control

The engine management of the LokSound 5 XL has again been fundamentally improved. A variably adjustable PWM clock frequency of 10kHz to 50kHz ensures especially in bell armature motors for a super quiet operation - The typical "humming" is a thing of the past. The load control can now be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the automatic decompression of the decoder to the motor. The LokSound 5 XL decoder provides with up to 5.0A (continuous current: 4.0A) motor current enough juice for PIKO® G-Spur locomotives as well as twin-engine locomotives with Buhler® or Mabuchi® engine.

58513, LokSound 5 XL DCC/MM/SX/M4 »blank decoder«, Screw terminals, gauge: G, I $269,99 (MSRP)
58515, LokSound 5 XL DCC/MM/SX/M4 »blank decoder«, Pinheader, gauge: G, I $269,99 (MSRP)

Speaker 11 mm x 15 mm

The rectangular miniature loudspeaker generates despite its compact dimensions of only 11 x 15 mm a very convincing sound.

It can be used with all LokSound decoders and is suitable everywhere where there is no space for the larger round speakers.

The loudspeaker is supplied with a four-part sound capsule set. The height of the sound capsule can be varied depending on the model be adjusted.

50321, Speaker 15mm x 11mm x 3.5mm, square, 8 Ohms, with sound chamber kit, 0.5W $10,99 (MSRP)

Speaker 24 mm x 55 mm

This speaker module is suitable for large tenders with H0 or OO gauges or models of Gauge 0. Its built-in passive radiator results in connection with the built-in broadband speaker a good bass reproduction without neglecting the highs and mids. Especially for Diesel or steam locomotives, this module is a real alternative for those who like deep bass, however It is not created for extreme volume.

The speaker fits perfectly with our LokSound 5 or LokSound 5 L decoders.

50344, Speaker 24mm x 55mm x 8.6mm, rectangular, 8 ohms, bass reflex $17,99 (MSRP)

Modular speaker baffle set for a single Sugar Cube speaker

With our new modular speaker baffle set suitable for a single miniature speaker you can easily assemble your tailormade speaker baffle for two miniature speakers. Both – diameter and height – can be individually adapted to suit your needs. Even with one speaker the audio pressure is considerably better than with one circular speaker intended for these dimensions.

The popular sugar cube speaker 11x15mm and 8 Ohm impedance is supplied with a sealed mounting plate. First select one of the three base frames subject to the type of speaker you want to assemble, namely a circular frame with either 20mm or 23mm diameter or a rectangular type with 16x25mm. After you have inserted the speaker into the base frame you may now determine the height of the speaker baffle. The minimum height is 6mm, which can be raised to 8mm, 9mm, 10mm, 11mm or 13mm by adding up to three intermediate frames. The set contains two 2mm high and one 3mm high intermediate frame. They can easily be fixed with some glue suitable for plastic materials.

The higher the speaker baffle, the better the bass fidelity. It certainly pays off to utilize the entire space available.

50341, Speaker set, Single 11x15mm, Modular sound capsule set for 20mm, 23mm, 16x25mm $16,49 (MSRP)

Modular twin speaker baffle set for Sugar Cube speakers

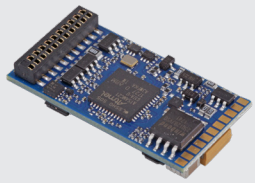
With our new modular speaker baffle set you can easily assemble your tailormade speaker baffle suitable for two miniature speakers. Both – diameter and height – can be individually adapted to suit your needs. Considerable audio pressure and excellent sound fidelity can be generated by employing two speakers wired in parallel.

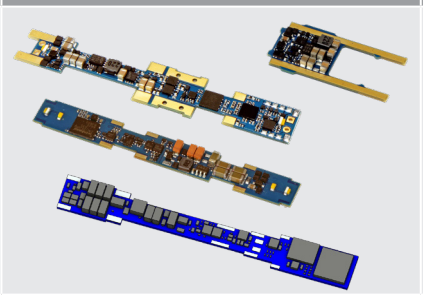
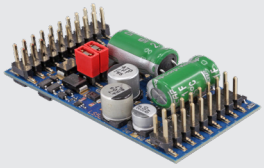
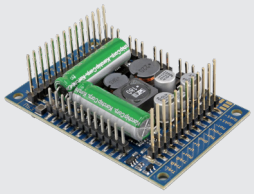
The popular 11x15mm sugar cube speaker with 8 Ohm impedance is supplied with a sealed mounting plate. First select one of the three base frames subject to the type of speaker you want to assemble, namely a circular frame with 28mm diameter or a rectangular type with either 16x35mm or 20x40mm. After you have inserted the speakers into the base frame you may now determine the height of the speaker baffle. The minimum height is 6mm, which can be raised to 8mm, 9mm, 10mm, 11mm or 13mm by adding up to three intermediate frames. The set contains two 2mm high and one 3mm high intermediate frame. They can easily be fixed with some glue suitable for plastic materials.

The higher the speaker baffle, the better the bass fidelity. It certainly pays off to utilize the entire space available.

50340, Speaker set, Dual 11x15mm, Modular sound capsule set for 28mm, 20x40mm, 16x35mm $20,99 (MSRP)

ESU Decoder Overview: LokSound

	LokSound 5	LokSound 5 micro
		
Operational modes		
DCC 14, 28, 128 speed steps	OK	OK
DCC long and short addresses	OK	OK
DCC traction address (Consist Mode)	OK	OK
DCC LGB pulse control	OK	OK
Automatic speed steps detection	OK	OK
Lenz® LG 100, ROCO brake unit	OK	OK
Lenz® ABC brake unit	OK	OK
Lenz® ABC shuttle train control	OK	OK
ZIMO HLU commands	OK	OK
DC analogue operation	OK	OK
Motorola® 14 speed steps	OK	OK
Motorola® 28 speed steps	OK	OK
Motorola® address 1 - 80	OK	OK
Motorola® address 1 - 127	OK	OK
Motorola® address 1 - 255	OK	OK
M4 data protocol (mfx compatible)	OK	OK
Selectrix®	OK	OK
Märklin® brake unit	OK	OK
AC analogue operation	OK	OK
Automatic detection of operational mode	OK	OK
Throttle (Motor control)		
DC and coreless motors, AC motors with permanent magne	OK	OK
PWM frequency		
BEMF control in digital operation	OK	OK
BEMF control in analogue operation	OK	OK
Adjustable start / maximumspeed in analogue operation (momentum)	OK	OK
Mass simulation for 14 speed steps operation	OK	OK
“Autotune” function for BEMF control	Ok	OK
Adjustable BEMF measurement period and measurement gap	Ok	OK
Continuous motor current	1,5A	0,75A
Short circuit protection, Motor brake, Motor overload protection	OK	OK
Sound		
LokSound 5 Soundengine		
Power of audio output stage (Sinus)	1.5W Mono. 4 -32 Ohms	1.5W Mono. 4 -32 Ohms
Programming		
DCC service mode programming modes (Register Mode, Address Only, Direct Mode)	OK	OK
DCC POM (Programming On the Main)	OK	OK
Programming mode for Märklin 6021	OK	OK
M4® configuration on the Main	OK	OK

	LokSound 5 micro DCC	LokSound 5 Nano	LokSound 5 Fx	LokSound 5 L	LokSound 5 XL
					
	OK	OK	OK	OK	OK
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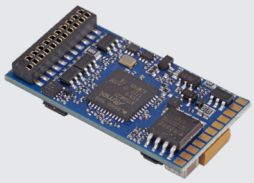
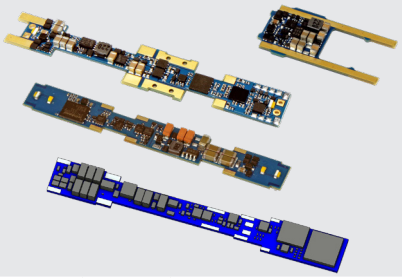
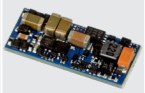
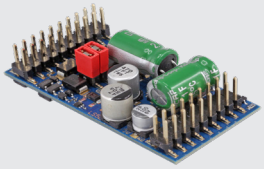
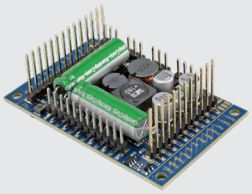
	-	-	OK	OK	OK
	OK	OK	OK	OK	OK
	OK	OK	-	OK	OK
	10,00 kHz to 50,00 kHz, adjustable				
	OK	OK	-	OK	OK
	OK	OK	-	OK	OK
	OK	OK	-	OK	OK
	OK	OK	-	OK	OK
	OK	OK	-	Ok	Ok
	OK	OK	-	Ok	Ok
	0,75A	0,75A	-	3,0A	4,0A
	OK	OK	-	OK	OK
	12 channels, 16 Bit HiFi quality, 31250 kHz sampling rate, 128 MBit Flash Memorychip				
				3W (Dual Output) 4-32 Ohms	6W (Dual Output) 4-32 Ohms
	OK	OK	OK	OK	OK
	OK	OK	OK	OK	OK
	-	-	OK	OK	OK
				OK	OK

ESU Decoder Overview: LokSound

	LokSound 5					LokSound 5 micro			
									
Specials									
M4® Feedback System	OK					OK			
RailCom® Feedback System	OK					OK			
RailComPlus® automatic recognition	OK					OK			
Storage of current operationalstate (memory)	-					-			
Motorola® wrong-direction bit	OK					OK			
Function outputs									
Output dimming	separate					separate			
Light effects like blinking lights, Marslight, Fire box flickering, Smoke box, etc.	OK					OK			
Time-controlled function outputs	OK					OK			
Function Mapping as ESU (F0 - F15)	-					-			
Function Mapping LokSound 5 ESU (F0 - F31)	OK					OK			
Function Mapping M4® compatible	-					-			
Shunting mode (deselectable)	OK					OK			
Momentum control (deselectable)	OK					OK			
Serieal protocol (SUSI)	OK					OK			
Adjustable brake controller, (de-selectable)	3					3			
Alternative load and Primary load simulation	Ok					OK			
»PowerPack« keep alive	optional					optional			
Item number	**58410**	**58416**	**58419**	**58449**	**58412**	**58810**	**58816**	**58818**	**58814**
Connection	8-pin wires	6-pin wires	21MTC Direct	21MTC MKL Direct	PluX22 Direct	8-pin Adapter	6-pin Adapter	Next18 Direct	PluX16 Adapter
Function outputs	10x Power 1x Logic level or PowerPack 1x Logic level or Wheel sensor	10x Power 1x Logic level or PowerPack 1x Logic level or Wheel sensor	10x Power 1x Logic level or PowerPack 1x Logic level or Wheel sensor 2x Logic level instead of Susi AUX3, AUX4 Logic level	10x Power 1x Logic level or PowerPack 1x Logic level or Wheel sensor 2x Logic level instead of Susi AUX3,AUX4 Power	10x Power 1x Logic level or PowerPack 1x Logic level or Wheel sensor 2x Logic level instead of Susi	6x Power 1x Logic level or PowerPack	6x Power 1x Logic level or PowerPack	6x Power 1x Logic level or PowerPack 2x Logic level instead of Susi	6x Power 1x Logic level or PowerPack 2x Logic level instead of Susi
Function output power rating for power outputs	250mA each					180mA each			
Inputs	1x Wheel sensor (or Logic level output)								
Servo outputs	2x instead of SUSI	2x instead of SUSI	2x instead of SUSI	2x instead of SUSI	2x instead of SUSI			2x instead of SUSI	2x instead of SUSI
Dimensions in mm	30.5x15.5x5.5					21.0x10.6x4.0			

	LokSound 5 micro DCC				LokSound 5 Nano	LokSound 5 Fx		LokSound 5 L	LokSound 5 XL	
										
-					-	-		OK	OK	
OK					OK	OK		OK	OK	
OK					OK	OK		OK	OK	
OK					OK	OK		-	-	
-					-	OK		OK	OK	
separate					separate	separate		separate	separate	
OK					OK	OK		OK	OK	
OK					OK	OK		OK	OK	
-					-	-		-	-	
OK					OK	OK		OK	OK	
-					-	-		-	-	
OK					OK	OK		OK	OK	
OK					OK	OK		OK	OK	
-					-	OK		OK	OK	
3					3	3		3	3	
OK					OK	OK		OK	OK	
-					optional	optional		integrated 2x 1F/2.7F	integrated 2x 5F/2.7V	
58721	**58731**	**58741**	**58751**		**58923**	**58210**	**58219**	**58315**	**58513**	**58515**
Slide In	Slide In	Slide In	Slide In		open wires	8-pin	21MTC	Pinheader	Screw terminals	Pinheader
Direct	Direct	Direct	Direct			wires	Direct	Adapter board		Adapter board
10x Power with LEDs	3x Power	5x Power each of 2 with LED 1x Logic level	6x Powered output 2 with LED integrated 1x Logic level		6x Power 1x Logic level	6x Power	6xPower 1x Logic level or PowerPack 1x Logic level or Wheel sensor 2x Logic level instead of Susi AUX3,AUX4 Logic level	11x Power 1x Logic level instead of Wheel sensor 2x Logic level instead of SUSI 2x Logic level instead of Servo3/ Servo4 1x Smokeunit Heater 1x Smokeunit Motorcontrol	12x Power 1x Logic level 2x Logic level instead of SUSI 4x Logic level instead of Servo 1-4	12x Power 1x Logic level 2x Logic level instead of SUSI 4x Logic level instead of Servo 1-4
180mA or LED each					180mA each	250mA each		500mA each	500mA each	
							1x Wheel sensor	1x Wheel sensor, 2x Sensor input 1x Motor off („Vitrinenmodus“) 1x Smokeunit Temperature sensor	1x Wheel sensor 2x Sensor input	
								2x fixed, 2x instead of Susi	4 fixed, 2x instead of Susi	
66.0 x 8.2	27.6x14.1	60.0 x 10.1	47.5 x 14		19.6x8.5x3.2	21.5x15.5		25.4x51.8x14.0	51.0x40.0x14.0	

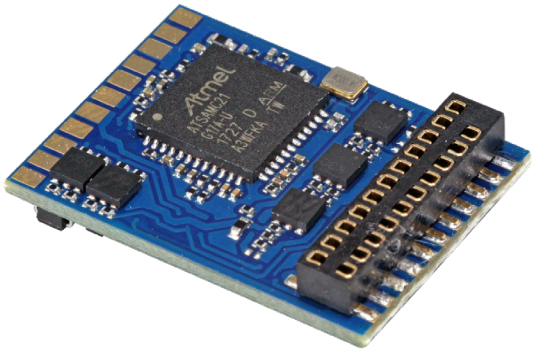
Sound selection for LokSound Select Decoders

ESU is the market leader in terms of sound, therefore we take your high demand for good sound very seriously. Here you will find a selection of standard sounds for popular Prime Movers which have been directly recorded from the original loco. For some Locomotives you may even find more than one verision for the ULTIMATE variety of sounds for your empire! You will find even more sounds for free within our sound library on our website: **http://projects.esu.eu/projectoverviews/2**

SOUNDPROJECTS for LOKSOUND 5 Decoder		
Steam	2-10-0-Decapod	S0784
Steam	2-6-0-Z27-Class	S0740
Steam	2-6-2T-Prairie	S0782
Steam	2-8-2-Heavy-Mikado	S0514
Steam	2-8-2-SOO-1003	S0574
Steam	4-12-2-Three-Cylinder	S0785
Steam	4-6-0-Ten-Wheeler	S0783
Steam	ALCO-4-8-4-MILW-261	S0792
Steam	Big-Boy	S0516
Steam	BLW-0-6-0-#3-HVSR	S0790
Steam	BLW-2-6-6-2T-#108-BHCR	S0816
Steam	BLW-2-6-6-2T-#110-BHCR	S0793
Steam	BLW-2-8-2-K-36-#484-CTS	S0791
Steam	BLW-4-6-2-#425-RN	S0804
Steam	DRGW-K27	S0586
Steam	Heisler	S0787
Steam	Shay	S0515
Steam	SP-GS-4-4449	S0737
Steam	UP-4-6-6-4-Challenger	S0556
Steam	UP-FEF-844	S0590
Diesel	Alco-12cyl-244-V2-FT	S0743
Diesel	ALCO-12cyl-251B-FT	S0541
Diesel	ALCO-12cyl-251C-FT	S0722
Diesel	Alco-12cyl-251C-V2-FT	S0745
Diesel	ALCO-16cyl-251C-FT	S0709
Diesel	ALCO244-12	S0501
Diesel	ALCO244-16	S0561
Diesel	ALCO251-Air-Start	S0527
Diesel	ALCO251-Electric-Start	S0562
Diesel	Alco-539T-6-cyl	S0511
Diesel	ALCO-6cyl-251-FT	S0591
Diesel	Alco-6cyl-539-FT	S0589
Diesel	Alco-8cyl-251F-FT	S0769
Diesel	Baldwin-606_606NA	S0546
Diesel	Baldwin-606SC_606A	S0547
Diesel	Baldwin-608A-FT	S0580
Diesel	Baldwin-VO-1000-FT	S0581
Diesel	BLW-6-606A	S0789
Diesel	Cat-44	S0544
Diesel	CAT-M636-CAT-FT	S0724
Diesel	CB-6-FW-6-LT	S0786
Diesel	Dual-ALCO-16cyl-251C-FT	S0718
Diesel	Dual-ALCO-6cyl-539T-FT	S0598
Diesel	Dual-EMD-12cyl-567-FT	S0583
Diesel	Dual-EMD-16cyl-645E3-FT	S0593
Diesel	Dual-GE-16cyl-FDL-FT	S0521
Diesel	EMD 12cyl 645E3 FT	S0725
Diesel	EMD 16cyl 645E3 V2 Low Idle FT	S0710
Diesel	EMD 16cyl 645E3 V3 Silenced FT	S0730
Diesel	EMD 16cyl 645E3B V4 FT	S0732
Diesel	EMD_645E-8-Non-Turbo	S0507
Diesel	EMD-12-1010J-LATE-EXH-T	S0776
Diesel	EMD-12cyl-567A-FT	S0762
Diesel	EMD-12cyl-567B-FT	S0731
Diesel	EMD-12cyl-567C-FT	S0560
Diesel	EMD-12cyl-645E3-FT	S0539
Diesel	EMD-16-567D1-2EXH-NT	S0788
Diesel	EMD-16-567E4-T	S0773
Diesel	EMD-16-645C-4EXH-NT	S0779
Diesel	EMD-16-645E-2EXH-NT-Ed3	S0777
Diesel	EMD-16-645E-2EXH-NT-Ed4	S0780
Diesel	EMD-16-645E3_GP38-2	S0526
Diesel	EMD-16-645E3B-LATE-EXH-T-Ed2	S0775
Diesel	EMD-16-645F	S0565

SOUNDPROJECTS for LOKSOUND 5 Decoder		
Diesel	EMD-16-645F-SD50	S0550
Diesel	EMD-16cyl-567BC-FT	S0711
Diesel	EMD-16cyl-567B-FT	S0746
Diesel	EMD-16cyl-567C-GP10-FT	S0717
Diesel	EMD-16cyl-567C-V3-FT	S0768
Diesel	EMD-16cyl-567D3-FT	S0577
Diesel	EMD-16cyl-567D3-V2-FT	S0758
Diesel	EMD-16cyl-567D-FT	S0723
Diesel	EMD-16cyl-645BC-GP16-FT	S0742
Diesel	EMD-16cyl-645C-FT	S0708
Diesel	EMD-16cyl-645E	S0721
Diesel	EMD-16cyl-645E3B-HEP-F40PH-FT	S0530
Diesel	EMD-16cyl-645E3B-V5-FT	S0765
Diesel	EMD-16cyl-645E-V2-FT	S0712
Diesel	EMD-16cyl-710E3B-SD60E	S0757
Diesel	EMD-16cyl-710G3A-FT	S0531
Diesel	EMD-16cyl-710G3B-FT	S0720
Diesel	EMD-20cyl-645E3-FT	S0707
Diesel	EMD-567-16cyl-Non-Turbo	S0536
Diesel	EMD-645E-12-Non-Turbo	S0543
Diesel	EMD-645E-16cyl-Turbo	S0508
Diesel	EMD-6cyl-567A-FT	S0706
Diesel	EMD-710-20Cyl-SD80MAC	S0596
Diesel	EMD-8cyl-567CR-FT	S0771
Diesel	EMD-Dual-12cyl-567BC-FT	S0761
Diesel	EMD-Dual-16-567E4-T	S0774
Diesel	FM-38D-6-FT	S0532
Diesel	GE-12cyl-7FDL-Early-FT	S0705
Diesel	GE-12cyl-7FDL-Modern-FT	S0538
Diesel	GE-12cyl-7FDL-Modern-V2-FT	S0727
Diesel	GE-12cyl-GEVO-FT	S0523
Diesel	GE-12cyl-GEVO-V2-FT	S0715
Diesel	GE-16-7FDL16G11-LATE-EXH	S0778
Diesel	GE-16-7FDL16Y2-LATE-EXH	S0772
Diesel	GE-16cyl-7FDL16AE-FT	S0728
Diesel	GE-16cyl-7FDL16K16R-FT	S0719
Diesel	GE-16cyl-7FDL-C39-8	S0747
Diesel	GE-16cyl-7FDL-Early-V2-FT	S0734
Diesel	GE-16cyl-7FDL-Modern-FT	S0540
Diesel	GE-16cyl-FDL-Dash_7-FT	S0713
Diesel	GE-16cyl-FDL-Dash-7-V2-FT	S0726
Diesel	GE-16cyl-FDL-Early-V3-FT	S0766
Diesel	GE-7FDL-16-cyl	S0568
Diesel	GE-7FDL-16-cyl-A-Modern	S0569
Diesel	GE-8cyl-7FDL-FT	S0576
Diesel	GE-ET44AC-Tier4-Gevo-V2-FT	S0738
Diesel	GE-ET44AH-Tier4-Gevo-FT	S0735
Diesel	GE-FDL-16	S0545
Diesel	GE-P42-AMD103-HEP	S0582
Diesel	GMD-12cyl-645C-FT	S0741
Diesel	Goodwin-6cyl-251-48-Class-FT	S0759
Diesel	Goodwin-Alco-12-251C	S0781
Diesel	Goodwin-Alco-12cyl-244-43-Class-FT	S0739
Diesel	GTEL-Turbine-FT	S0703
Diesel	EMD-12cyl-645E-V2-FT	S0733
Diesel	Misc-Galloping-Goose	S0512
Diesel	MLW-12cyl-251B-FT	S0767
Diesel	MLW-12cyl-251C3	S0714
Diesel	MLW-12cyl-251C-M420W-FT	S0770
Diesel	MLW-16cyl-251E-FT	S0729
Diesel	SD70M-2	S0525
Electric	AEM-7	S0595
Electric	GG-1	S0559
Electric	NewOrleans_Trolley	S0736

LokPilot 5 DCC



The LokPilot 5 DCC is the "twin brother" of the LokPilot 5. The two share almost all characteristics, however, the LokPilot 5 DCC is a pure DCC decoder and cannot be used on analog AC systems. This lack of flexibility comes with a cheaper price.

LokPilot 5 decoders are offered with all common interfaces.

Modes

The LokPilot 5 DCC is a "pure-bred" DCC decoder. 14 to 128 speed steps are as natural as 2- and 4-digit addresses. Up to 32 functions can be triggered. Thanks to RailComPlus® the decoders register automatically with a suitable DCC system like the ESU CabControl.

The decoder accepts all DCC programming modes and thanks to RailCom® the CV values can be read on the main track with RailCom equipped DCC systems. For command stations that only program the CVs from 1-255 auxiliary CV registers exist.

The LokPilot 5 DCC decoder recognizes the Märklin® braking sections as well as the ZIMO® HLU / ZACK Commands or the Lenz® ABC system. Also braking with DCC brake modules or with DC voltage is possible. It also stops with a Selectrix® brake diode. An ABC automatic shuttle train enables automatic commuting between two train stations.

The LokPilot 5 DCC decoder can be used on analog DC trains. The top speed can be set separately. The decoder switches between the operating modes fully automatically "on-the-fly".

Features

We know that you want your locomotives to be as realistic as possible. Therefore we have the LokPilot 5 DCC packed with function outputs. Depending on the interface version, each LokPilot offers 5 DCC Decoder at least 10 amplified function outputs with 250mA output current each. In the executions with PluX22 or 21MTC interface there are 4 outputs to control servos or Logic level outputs added. All-important lighting functions are available. The brightness of each output can be set separately. The decoder masters automatic pushing and pulling when uncoupling for ROCO®, Krois® and Telex® couplings.

Motor Control

The engine control of the LokPilot 5 DCC has been fundamentally improved again. A variably adjustable PWM clock frequency from 10kHz to 50kHz ensures super quiet operation, especially with bell-armature motors.

Operation

The typical "hum" is a thing of the past. The load control now has up to 10 CVs which can be adjusted for difficult cases. The unique "Autotune" function enables the automatic calibration of the decoder to the motor. The LokPilot 5 DCC decoder delivers up to 1.5A of motor current. Enough juice even for older motors.

Operational safety

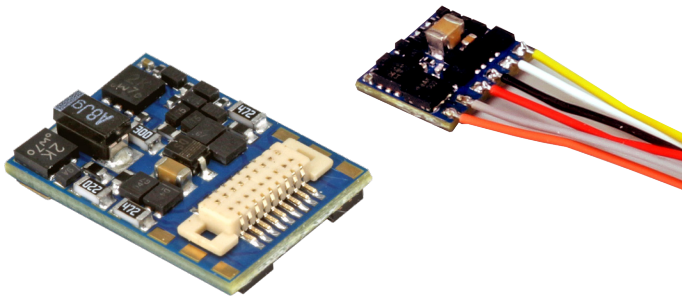
On request, a PowerPack can be fitted to the LokPilot 5 DCC to bridge dirty rail sections.

Protection

Of course, all function outputs and the motor output are protected against overload. We want you to enjoy your decoder for as long as possible.

59620, LokPilot 5 DCC, 8-pin NEM 652, gauge: 0, H0	$36,90 (MSRP)
59622, LokPilot 5 DCC, PluX22 NEM 658, gauge: 0, H0	$36,90 (MSRP)
59626, LokPilot 5 DCC, 6-pin NEM 651, gauge: 0, H0	$36,90 (MSRP)
59629, LokPilot 5 DCC, 21MTC NEM 660, gauge: 0, H0	$36,90 (MSRP)
59659, LokPilot 5 DCC, 21MTC MKL, gauge: 0, H0	$36,90 (MSRP)

LokPilot 5 micro DCC



The LokPilot 5 micro DCC is the "twin" of the LokPilot 5 micro. With just 8.0mm x 7.0mm and a thickness of only 2.4mm (on the capacitor: 2.9mm), just so small that it can also be accommodated in very small locomotives of nominal sizes Z, N or TT, it is a pure DCC Decoder. This lack of flexibility is rewarded with a lower price.

LokPilot 5 micro DCC decoders are available with all common interfaces. The variants with Next18 or PluX16 interface are a bit larger with a base area of 13.0mm x 9.2mm, but have 2 additional function outputs.

Modes

The LokPilot 5 micro DCC is a "pure-bred" DCC decoder. 14 to 128 speed steps are as natural as 2- and 4-digit addresses. Up to 32 functions can be triggered. Thanks to Rail¬ComPlus®, the decoders log on to a suitable DCC System fully automatically.

It masters all DCC programming command stations. Auxiliary registers exist for DCC systems that can only program CVs from 1-255.

The LokPilot 5 micro DCC decoder recognizes the Märklin® braking sections as well as ZIMO® HLU / ZACK commands or the Lenz® ABC system. Braking with DCC brake modules or with DC voltage is also possible. It also stops with a Selectrix® brake diode. An ABC automatic shuttle train enables automatic commuting between two stations.

The LokPilot 5 DCC decoder can be used on analog DC trains. The maximum speed can be set separately.

The decoder switches between the operating modes fully automatically "on-the-fly".

Features

We know that you want your locomotives to be as realistic as possible. Therefore we have the LokPilot 5 micro DCC equipped with an amazing number of function outputs. The variants with 6-pin or 8-pin Wiring harnesses offer 4 amplified function outputs, each with 180mA output current and two logic level.

Outputs

The versions with Next18 or PluX16 interface have a total of 6 amplified outputs and two logic level outputs available. All important lighting effects are available. The brightness of each output can be adjusted separately. The decoder masters automatic pushing and pulling when uncoupling for ROCO®, Krois® and Telex® couplings.

Motor Control

The motor control of the LokPilot 5 micro DCC has been fundamentally improved again. A variable adjustable PWM clock frequency from 10kHz to 50kHz ensures super quiet operation ,especially with bell-armature motors- The typical "hum" is a thing of the past. The load control now has up to 10 CVs which can be adjusted for difficult cases. The unique "Autotune" function enables the automatic calibration of the decoder to the motor. The LokPilot 5 DCC decoder delivers up to .75A of motor current. Enough juice for most motors.

Safety

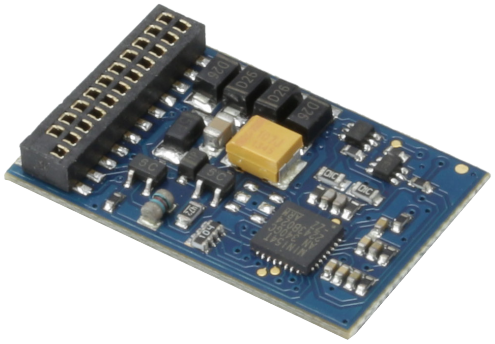
A PowerPack to bypass dirty track can be fitted to the LokPilot 5 micro.

Protection

Of course, the motor output and the function outputs are against overload protected. We want you to enjoy your decoder for as long as possible.

59820, LokPilot 5 micro DCC, 8-pin NEM 652, gauge: N, TT	$37,90 (MSRP)
59824, LokPilot 5 micro DCC, PluX16, gauge: N, TT	$37,90 (MSRP)
59826, LokPilot 5 micro DCC, 6-pin NEM 651, gauge: N, TT	$37,90 (MSRP)
59827, LokPilot 5 micro DCC, 6-pin direct, gauge: N, TT	$37,90 (MSRP)
59828, LokPilot 5 micro DCC, Next18, gauge: N, TT	$37,90 (MSRP)
59857, LokPilot 5 micro DCC, 6-pin direct angled, gauge: N, TT	$37,90 (MSRP)

LokPilot 5 Basic



While LokPilot 5 decoders can undoubtedly meet all imaginable requirements of even the most demanding experts, many model railway eras are looking for a robust, high-quality DCC decoder for your standard requirements, which should also be affordable.

The LokPilot 5 Basic was developed with the aim of offering a modern decoder with a reasonable range of functions at a reasonable price.

The LokPilot 5 Basic comes in two versions: In addition to a version with an 8-pin NEM interface, a version with 21MTC interface is also available. This makes the LokPilot 5 Basic particularly suitable for use in track H0 vehicles.

Modes

The LokPilot 5 Basic is a "pure-bred" DCC decoder. 14 to 128 driving steps are as self-evident as 2- and 4-digit addresses. Up to 20 functions can be triggered. Thanks to RailComPlus®, the decoders log in fully automatically to a suitable digital center.

It masters all DCC programming modes and thanks to RailCom® the CV values can be read out on the main track with suitable control panels. Auxiliary registers exist for control panels that can only program the CVs from 1-255.

The LokPilot 5 Basic Decoder detects the Märklin® brake distances as well as the Lenz® ABC system. Braking with DCC brake blocks or dc voltage is also possible.The LokPilot 5 Basic Decoder can be used on analog DC webs. The maximum speed can be set separately.The decoder switches "on-the-fly" fully automatically between operating modes. Most of the time, nothing needs to be adjusted.

Functions

The LokPilot 5 Basic has 4 reinforced function outputs in each version. In the 21MTC interface, there are 8 logic-level outputs at the interface, two of which are also suitable for controlling servos. All important lighting functions are available. The brightness of each output can be set separately.

Motor Control

The motor control of the LokPilot 5 Basic delivers up to 0.9A continuous current. A variable PWM clock frequency from 10kHz to 50kHz ensures super-quiet operation, especially for bell anchor motors – The typical "hum" is a thing of the past. The load control can be adapted to difficult cases with up to 10 CVs. The unique "Autotune" function allows the decoder to be automatically measured against the motor.

Operation reliability

On request, a PowerPack can be connected to the LokPilot 5 Basic to bridge dirty rail cuts.

Protection

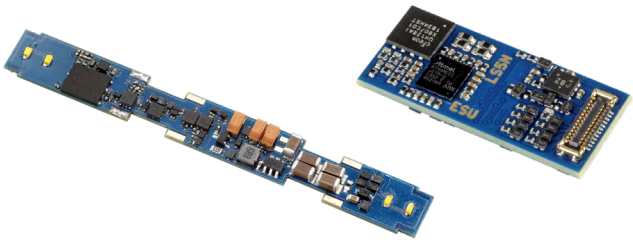
Of course, all function outputs as well as the motor output are protected against overload. We want you to enjoy your decoder for as long as possible.

59020, LokPilot 5 Basic, 8-pin NEM 652, gauge: 0, H0 $29,90 (MSRP)
59029, LokPilot 5 Basic, 21MTC NEM 660, gauge: 0, H0 $29,90 (MSRP)

LokPilot 5 micro DCC Direct

NEW

LokPilot 5 Nano DCC



The LokPilot 5 micro DCC DCC Direct and the LokPilot 5 nano DCC are the "little brothers" of the LokSound 5 micro DCC Direct and the LokSound 5 nano DCC. These non-sound Decoders share the same dimensions and functions with the LokSound decoders, but without sound.

These decoders are used wherever the sound is to be dispensed with, but all other properties are to be the same. This applies in particular to the motor control and to enable Consist Operation together with LokSound 5 decoders.

Modes

The LokPilot 5 micro DCC DCC Direct and the LokPilot 5 nano DCC are "pure-bred" DCC decoder. 14 to 128 speed steps are as natural as 2- and 4-digit addresses. Up to 32 functions can be triggered. Thanks to Rail¬ComPlus®, the decoders log on to a suitable DCC System fully automatically.

They master all DCC programming command stations. Auxiliary registers exist for DCC systems that can only program CVs from 1-255.

The LokPilot 5 micro DCC DCC Direct and the LokPilot 5 nano DCC decoder recognizing the Märklin® braking sections as well as ZIMO® HLU / ZACK commands or the Lenz® ABC system. Braking with DCC brake modules or with DC voltage is also possible. They also stop with a Selectrix® brake diode. An ABC automatic shuttle train enables automatic commuting between two stations.

They can be used on analog DC trains. The maximum speed can be set separately. The decoder switches between the operating modes fully automatically "on-the-fly".

Functions

The LokPilot 5 micro DCC Direct decoders have up to 10 directly soldered LEDs. Two of them are intended for front and rear head lighting, two more are connected to the AUX3 and AUX4 outputs to switch e.g. number boards. A further 6 LEDs on the bottom are intended for ditch lights, but can also be used for other lighting purposes on request. All important lighting functions are available. The brightness of each output can be set separately.

Despite its small size, the LokPilot 5 Nano DCC has 8 powered function outputs as well as 5 logic level outputs on the new, extremely small ESU E24 interface. All important lighting functions are available. The brightness of each output can be set separately.

Motor Control

The motor control of the LokPilot 5 micro DCC DCC Direct and the LokPilot 5 nano DCC has been fundamentally improved again. A variable adjustable PWM clock frequency from 10kHz to 50kHz ensures super quiet operation ,especially with bell-armature motors- The typical "hum" is a thing of the past. The load control now has up to 10 CVs which can be adjusted for difficult cases. The unique "Autotune" function enables the automatic calibration of the decoder to the motor. The LokPilot 5 DCC decoder delivers up to .75A of motor current. Enough juice for most motors.

Operation reliability

A PowerPack to bypass dirty track can be fitted to the LokPilot 5 Nano DCC (NOT to the LokPilot 5 micro DCC Direct!).

Protection

Of course, the motor output and the function outputs are against overload protected. We want you to enjoy your decoder for as long as possible.

59721, LokPilot 5 micro DCC Direct, gauge: N — $40,90 (MSRP)
59925, LokPilot 5 Nano DCC , E24 interface, gauge: N, TT — $40,90 (MSRP)

ECoS

The ECoS 50210 is already the second generation of our successful ECoS command station. ECoS offers state-of-the-art digital technology combined with a contemporary functional range and easy handling. All this, for a fair price-performance ratio.

A fully graphic-capable, illuminated TFT display with excellent contrast values shows all information in plain text. For operation the ECoS has a touch-sensitive display which can be operated either by hand or with the delivered stylus.

What ECoS can do

With an ECoS command station you acquire an open system. ECoS was created to be as open and compatible as possible with all present systems and norms.

- Run locos
- Operate turnouts and magnetic accessories
- Track diagrams
- Routes
- Shuttle train control
- Turntable control
- RailCom® and RailComPlus®
- Current monitor
- Decoder programming
- Self-made Loco Images

In combination with its ground-breaking and easy-to-use user interface ECoS reaches unprecedented ergonomics. All symbols and text are clearly marked and structured.

50210, ECoS 2.1 system, 6A, 7" TFT , MM/DCC/SX/M4, power supply 15-21V German & English manual $899,90 (MSRP)

LokProgrammer

You want to listen to the sound spectrum of your favourite loco on your model railroad? No problem with ESU's LokProgrammer! One prerequisite: A PC with sound card, serial interface or USB port as well as Windows XP or Windows 7. Simply record the original sound of your engine and edit it at home with your computer.

With the LokProgrammer, you can also change the settings of all ESU decoders such as LokSound, LokPilot as well as SwitchPilot decoders according to personal requirements. This makes a realistic railway feeling possible.

Thanks to the graphical user interface of Windows the best-possible decoder adjustment can be carried out, even without any programming experience. Never has the adjustment of a digital decoder been easier!

Settings

The most important function of the LokProgrammer is the tuning and adjustments of new decoders. No matter if it is a DCC, multi-protocol or M4 decoder. With the help of the LokProgrammer you are able to change almost each of the decoder´s settings in an easy and convenient way. Depending on the decoder type the amount of available options varies. You can change all of the decoder´s digital parameters, such as address of the loco, operation speed, maximum speed, braking deceleration, brightness of bulbs etc.

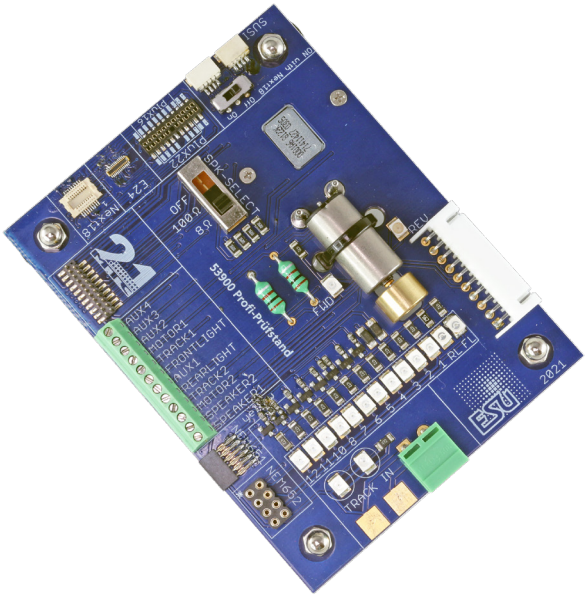
Furthermore you can change the parameters of the total load control or the function key allocation as well as for brake distance or analogue modes. Also the speed table can be conveniently manipulated by mouse click. In short, all decoder settings can be displayed and modified.

Of course you can also edit the settings of M4 decoders such as loco symbol, function key symbols and the loco name, just like it is shown later on the command station. If your ESU decoder already speaks RailComPlus®, you are able to modify the respective values as well.

Thus you can set all options with your computer very easily - no cumbersome entering of CVs (configuration variables) with your command station!

53452, LokProgrammer set: LokProgrammer, power supply 120V US, serial cable, instruction manual, USB-Adapter $179,99 (MSRP)

Decoder Tester V2.0



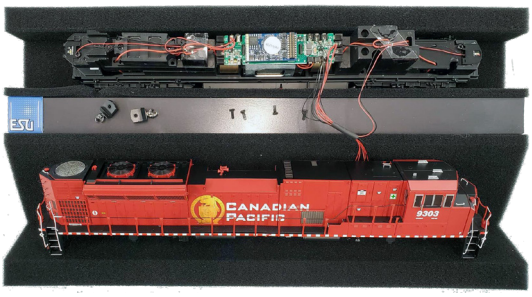
Maybe you know the situation: In front of you there is a digital decoder on the workbench, and before you undertake its complicated installation into the loco, you would like to know if the decoder works as advertised. But, how do you test it? The Decoder Tester helps you: It's designed for testing decoders before these are installed into a loco. The Decoder Tester is simply hooked up to your digital command station, or the LokProgrammer. It even works well with non ESU decoders!

Configuration

To make this as simple as possible for you, the Decoder Tester comes with useful features: To connect the decoder, there is a 6-wire NEM 651 harness and an 8-wire NEM 652 interface, as well as a 21-pin mtc-interface available. Plug it in – Bingo! Locos without an interface board can be hooked up with alligator clips. A quality coreless motor with flywheel serves in conjunction with LEDs indicating the direction for checking the motor output: Thus it is quite easy to check on the low speed performance and the even speed of the decoder. An LED monitor informs you about the functioning of the headlights and back-up lights as well as the function outputs AUX1 through AUX6. For testing LokSound decoders we have integrated a 20 mm speaker. Due to its sensible features and simple handling, the Decoder Tester will soon become an indispensable asset in your shop.

53900, Decoder tester, NEM651, 652, 21MTC, PluX22, Next18, wires. With Motor, LED monitor, 20mm speakers, Extension port
$54,99 (MSRP)

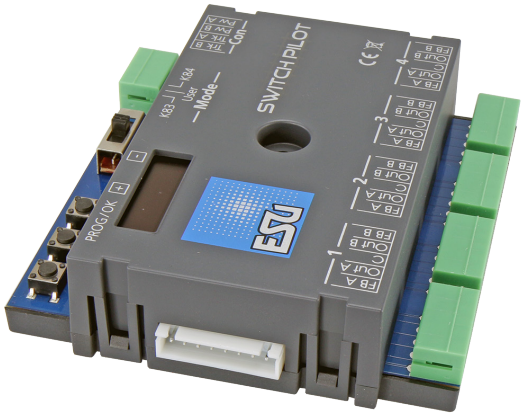
Premium Foam Train Service Tray



The ESU Premium Foam Train Service Tray is the ideal tool for the maintenance and care of your locomotives. Two recesses are available: The locomotive can be supported upside down to comfortably get to the underbody. Or in the inclined tray, you can easily work on the side of the body. You can also set up the locomotive almost vertically. This works great for decoder installs! For safe storage of small parts and screws, a magnetic storage recess is available over the entire length. The Premium Foam Train Service Tray is 13 inches long and can be arranged in rows so that longer railcars can be serviced!

41010, Premium Foam Train Service Tray, with magnetic storage recess, 13 x 6.5 x 2.5 inches $27,99 (MSRP)

Switch Pilot 3



SwitchPilot 3 decoders are optimized for stationary use on your system and can switch conventional double coil switch drives, light signals, magnetic uncouplers, light bulbs or other stationary consumption.In order to facilitate the rather cumbersome configuration of magnetic article decoders, the SwitchPilot 3 has an innovative operating concept consisting of a 4-line, illuminated OLED display and three input buttons.

Operating modes

The SwitchPilot 3 is multi-protocol and can be used with workstations according to the Märklin® Motorola® system (e.g. 6021, Central Station® or Mobile Station®) as well as DCC-enabled control panels. The configuration can take place on both the main track and the programming track. Thanks to RailCom®, CVs can also be read out.

Functioning

The SwitchPilot 3 can be supplied directly from the digital system or from an external DC or change voltage source. It has a total of 8 transistor outputs, which are grouped in the 4 exit pairs 1 to 4. Each output pair contains two outputs (OutA and OutB) and can be configured individually for the desired use case:In pulse mode, the output is switched on as soon as a switching command is received. The fact that the output automatically switches off again as soon as the time stored in the decoder has elapsed prevents the burning of magnetic article drives.At the moment (K83-compatible) the output remains active as long as the button on the control panel is pressed.

This operating mode is suitable for turnout drives with final shutdown or for de-caps.In bi-stable continuous operation (k84-compatible), the two outputs are switched on and off: When pressing the first button (red) on the control panel, the output Out A is switched on. It remains active until pressing the assigned button (green) activates the output Out B of the same output group. Out A and Out B behave like a change switch.In alternating flasher mode, the outputs Out A and Out B of an output pair are switched on alternately with an adjustable flashing frequency. The change indicator is started with the command "Ge- rade/Green" of the assigned button and stopped again with the command "Branching/Red".Optionally, the output can also be slowly dimmed and dimmed (so-called "zoom" for glow lam pen simulation). With the switch 3 mode switch, you can switch all output pairs together to the "k83" or "k84" modes at lightning speed, regardless of how they are configured.

Feedback

Since the SwitchPilot 3 is RailCom®-capable, all settings can be read out and changed directly in the built-in state on request. In combination with an ECoS as an ideal "partner", the SwitchPilot 3 can record and display the actual turnout setting with appropriately prepared turnout drives. Finally, you have the certainty that your switch has switched correctly!

Set

The SwitchPilot 3 can be flexibly adjusted either on the programming track with DCC control panels or on the main track with POM ("Programming on Main") or can also be read out via RailCom® CVs. On request, he also learns the addresses directly via a programming button. The easiest way to set is, of course, with the integrated OLED display and the three input buttons: All (!) Settings can be checked directly on the decoder and changed on request. A"Programming" with the help of your control panel is not required. It really can't be any easier. The ESU LokProgrammer can be used for firmware updates.

Protection

As with our locomotive decoders, the outputs of the SwitchPilot 3 are largely protected against overload. We want you to enjoy your decoder for as long as possible.

51830, SwitchPilot 3, accessory decoder for 4 twin coils magnetic, 2 x Servo, DCC/MM, 1A $53,49 (MSRP)

Cab Control WiFi DCC System

The ESU CabControl DCC system gives you wireless control of your locomotives, accessories and routes simply by Wi-Fi! With the 50310 CabControl Integrated Control Unit, advanced model railroading is as simple as ever. With our new system, you have full control over your locomotives, switches and signals just at the tap of a finger. The unit communicates with our Mobile Control II Wireless Controller via wireless LAN. The CabControl's integrated 7 Amp booster also allows it to power even larger layouts with ease. LokSound decoders equipped with RailComPlus® even register automatically with the system! Running trains has finally caught up with the technology of today!

CabControl - Integrated Control Unit

ESU's "North American" System

This system was specially developed for use in North America and Australia.

- American and Australian locomotive icons (along with European Icons).
- Easy Consisting for multiple unit lash-ups using drop down menus.
- Wireless walk around system making it easy to follow your train on a large layout.

Technical Specifications

CabControl Features

- All DCC modes (14, 28, 128 speed steps) Long and short addresses
- Over 16,000 locomotives can be arranged and controlled
- Up to 28 functions per locomotive
- Free User updates using your PC

Built-in WLAN Access Point

- Creates a unique Wifi-Network for your Mobile Control II Wireless throttles.
- Supports at least 32 Mobile Control II Wireless Controllers.
- Compliant with all relevant IEEE WLAN standards. Suitable for use in America and Europe.
- The Cab Control features a LAN port to connect the box to your home network.
- Via the home network, the CabControl can be connected to Model Railroad Control Software.

CabControl - Handheld Wireless Throttle

Ergonomics & Functionality Combined

- Excellent Ergonomics
- All functions reachable by one hand
- Central motorized knob for delicate speed control and optional direction change
- 4 Programmable side buttons
- Colorized Function Icons

Running Locomotives

- 14, 28,128 Speed Step Control
- Clear Colorized locomotive properties including Picture, Function mapping, and Function button Icons automatically transferred using RailCom Plus
- At least 28 functions per locomotive
- Each Function can be set to momentary or continuous latching use

50310, CabControl DCC System, with WiFi Throttle, 7A, Set with power supply 110V-240VA, USA, Output 15-21V, english $499,90 (MSRP)

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