

## "ZIMO KLUG" - *Cost-effective Update and sound load*

The new ZIMO **KLUG** - the **Compact Loading and Update Gadget** - allows the loading of new software versions and sound projects (from the ZIMO Sound Database) from the computer (ZSP software) to all **MS sound decoders and MN non-sound decoders** - currently not in MX decoders.

The performance of the software update and sound loading is the same as that of the MXULF; the data protocol is identical. Sound loading is also carried out either via the track or SUSI (approx. 1 hour or 5 min).

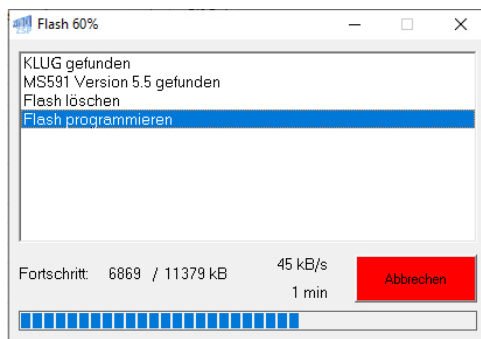
In contrast to the MXULF, the KLUG itself contains the most important **decoder interfaces for direct connection of the decoders** (PluX12 to -22, 21MTC, Next, E24, NEM-651). This means that no MSTAP board (test and connection board) is required for software updates and sound loading of the vast majority of types for small gauges.

However, MSTAPK and MSTAPG can also be connected to the KLUG for testing (motor, loudspeaker, Fu-LEDs, ...) and, for example, for direct connection of large scale decoders.

The KLUG is powered from the computer via a USB cable (USB-C on the KLUG side). No power supply unit is therefore required. Internally, the 5V USB voltage is stepped up to 10V, but test operation is limited by this type of supply compared to the MXULF.



**"ZIMO KLUG"**  
Pre-series still without NEM-651



Sound load window in ZSP

## Editorial

From **1984**, ZIMO took part in the **International Toy Fair in Nuremberg**, initially with a modest 3x3m stand. In 2008, the trade fair management organised a special celebration for the "25-year-olds" of all sectors, including ZIMO.

During the same period, however, the "thumbscrews" for exhibitors were tightened more and more; the management of Spielwarenmesse eG probably considered Nuremberg to be irreplaceable, which is why exhibitors had to put up with everything: the annual advance payment date for stand fees, a new registration fee, harassment of small exhibitors with regard to stand allocation, access to set-up and dismantling, and so on.

Result:

From **2009** onwards, **ZIMO** was **no longer there**; at the time a monstrosity where others had been queuing for years. But in the years that followed, the realisation took hold that a stand in Nuremberg was not essential after all. In 2025, Nuremberg is practically a thing of the past for model railways (less than 10 exhibitors).

Actually quite pleasing ...

Between 2010 and 2015, ZIMO rented a room in the DB Museum as a meeting point for all those interested in ZIMO who came to Nuremberg for the toy fair. This has also become redundant in recent years.

For those interested in history:

The original announcement on the ZIMO website from 2010:

### **Nuremberg 2010: ZIMO at the Transport Museum !**

Due to what we consider to be unacceptable behaviour on the part of Spielwarenmesse eG, we have not continued our 25-year participation in the Spielwarenmesse since 2009. However, we are still present in Nuremberg for our business partners, and of course also for private model railway enthusiasts if they come to Nuremberg. After the "Experiment 2009" in the Nuremberg Ofenwerk, we have found a particularly attractive and easily accessible location for 2010, the

**DB Museum (Transport Museum) - Lessingstraße 6 (Underground Opera House)  
ZIMO exhibition and meeting point from 4 - 7 February 2010, 2 to 7 p.m. each day**

Many of you are probably already familiar with this house; for visitors to the Spielwarenmesse, it is particularly easy to drop by here at ZIMO between visiting the fair and the evening programme in Nuremberg city centre. Admission is free of charge, and you can also visit the museum's exhibition rooms!

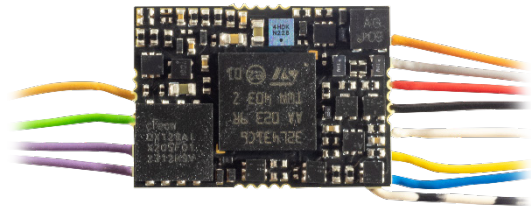
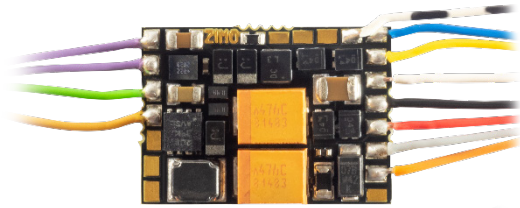
We are not organising a full exhibition at the Verkehrshaus with a stand, etc., but we will still be able to show and demonstrate the most important products, i.e. the new ZIMO MX10 and MX32 system, as well as decoders and sound decoders. However, we mainly want to meet our customers and users and discuss current problems and future plans with them. From our side probably will be present:

Hubinger, Ziegler (both ZIMO), Schild (ZIMO Sales), as well as Sperrer (STP, PfuSch).

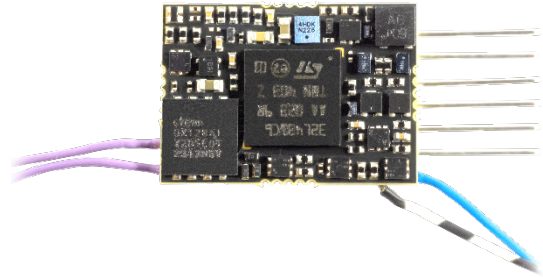
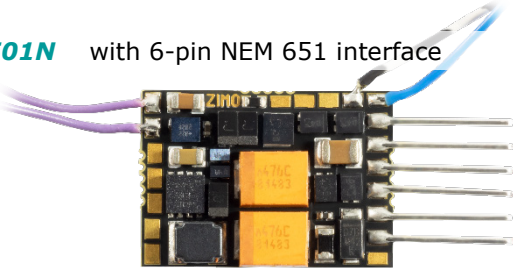
# The latest miniature decoders

## MS501 - The smallest sound decoder in the world (as far as we know ...)

- **MS501** Wired version (pictures top side, bottom side)



- **MS501N** with 6-pin NEM 651 interface



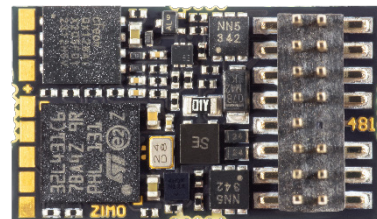
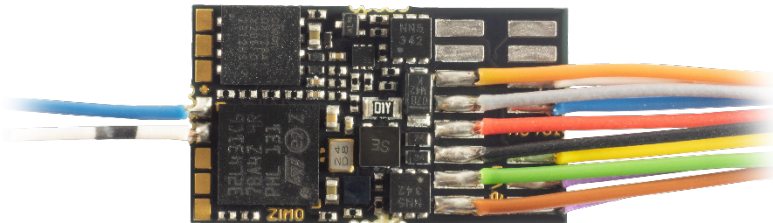
- 13.4 x 9.5 x 2.4 mm (area 127.3 mm<sup>2</sup>)
- 0.7 A total and motor current continuous (1.5 A peak)
- 4 (amplified) function outputs
- SUSI pins (SUSI, servos or logic level inputs/outputs) on solder pads
- Speaker output 1 Watt / 8 Ohm
- Energy storage (16V electrolytic capacitors or 16V tantals up to 1000 µF) can be connected directly, external STACO (currently STACO4) up to 150,000 µF for additional requirements

## MS481 - The small sound decoder with 3 watts of sound

- **MS481** wired versions (open, with NEM652, with NEM 651)
- **MS481P16** with interface

Decoder pictures on this page approx. 2.5 x enlarged.

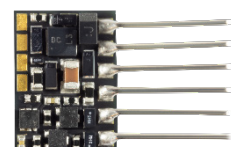
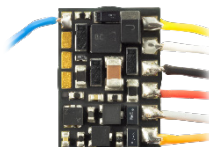
- 19 x 11 x 3.1 mm *Successor to the MS480*
- 0.8 A total and motor current continuous (1.5 A peak)
- 6 (amplified) function outputs (2 of them on solder pads)
- SUSI pins (SUSI, servos or logic level inputs/outputs)
- Speaker output 3 Watt / 4-8 Ohm
- Energy storage (16V electrolytic capacitors or 16V tantals up to 1000 µF) can be connected directly, external STACO (currently STACO4) up to 150,000 µF for additional requirements



## MN150 - The smallest ZIMO non-sound decoder

- **MN150** wired versions (open, with NEM652, with NEM 651)
- **MN150N** with 6-pin interface to NEM-651

- 8.2 x 5.9 x 2.1 mm
- 0.5 A total and motor current, continuous (1 A peak)
- 4 (amplified) function outputs



## Further development of the software for ZIMO decoders

In addition to the (unavoidable) bug fixes ... the most important major points in progress:

- Implementation of the registration of new decoders on the digital system according to RCN-218, including equipping the sound projects with the appropriate GUI data for controllers and apps.
- Implementation of special procedures for diesel-mechanical traction units (with feedback effect of the switching pauses on the course of acceleration, consideration of different accelerations, etc.)
- Control of train formations via the train bus (according to T4T), which is being realised for the first time in a concrete project.

**For large scales (0, 1, G):**

## Now **3** smoke generators to choose from

All ZIMO smoke generators are designed **exclusively for use with ZIMO MS950 and MS990 large scale decoders**. Only these have the necessary outputs for direct operation of the heating elements and fans.

The smoke generators therefore only need a small amount of their own electronics and no microcontroller (and therefore no firmware that needs to be loaded), namely only to the extent necessary for overtemperature protection. This results in **favourably priced package solutions**. The connection between the ZIMO smoke generator and the ZIMO large scale decoder is easy to establish using a ribbon cable (4- or 6-pin).

Together with the new RAUSI2 (a smaller version - with slightly less tank capacity - of the RAUSI1), there are now 3 variants: two sizes in the case of the single types. In the case of the dual type, there is currently (only) one type.

### **RAUSI1**

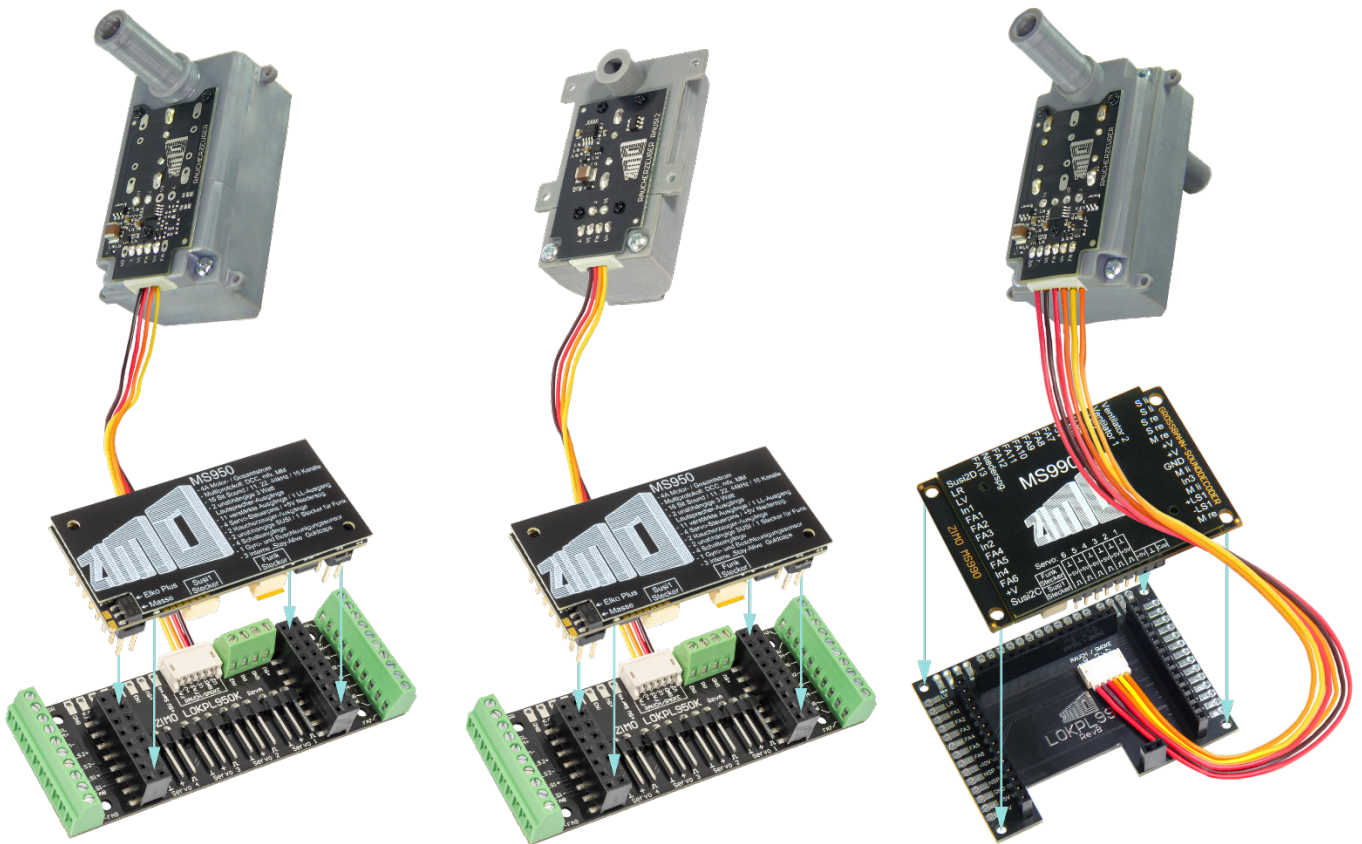
49 x 29 x 27 mm  
Gauges 0, 1, G, ...  
4 ml tank  
approx. 12 minutes

### **RAUSI2**

45 x 24 x 25 mm  
Gauges 0, (1, G, ...)  
3.5 ml tank  
approx. 10 minutes smoke

### **RAUDU1 (Dual)**

49 x 29 x 31 mm  
Gauges (0), 1, G, ...  
4 ml tank  
approx. 8 minutes smoke



For example, to be combined with

**MS950** - (small) large scale decoder  
via plugged-in loco board LOKPL950K

**MS990L** - (large) large scale decoder  
via plugged-in loco board LOKPL990

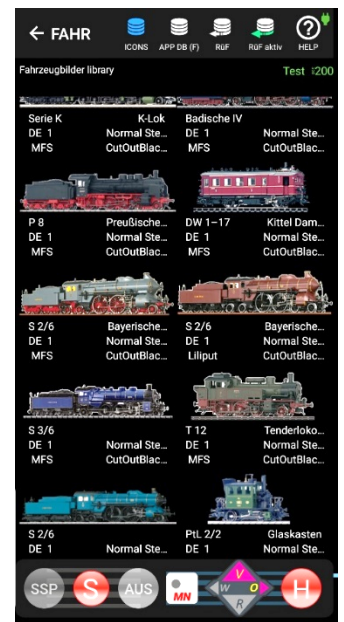
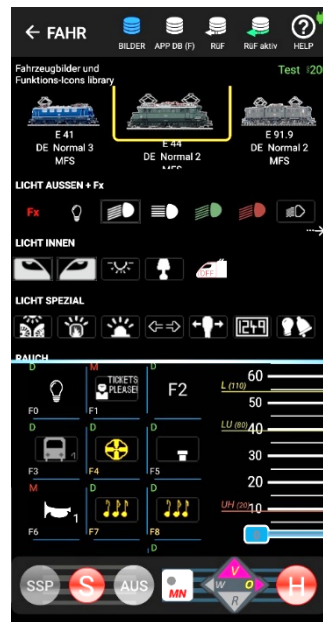
# The ZIMO App - Development

Currently, the procedures for the assignment of vehicle images - from the new **Rolling Stock Library** - and the assignment of function symbols - from the **Function Symbol Library** - are being implemented.

This area also includes the copy & paste of images and symbols between vehicles, which often facilitates the creation of GUIs.

In future, the ZIMO app will also be used in parallel with the ZIMO controllers (i.e. the same address set twice), because the large screen makes it much more convenient to select images and symbols on the smartphone - e.g. by fast scrolling - than on the controller.

Pre-issue (unfinished libraries) →



## New decoder packaging

The new packaging is primarily optimised for specialist dealers so that they can present the ZIMO decoders well in the shop. But there is also an extended range of information for the end consumer.

PS: the transparent boxes, which are popular with many users and are ideal for re-use as small parts containers, are still part of the packaging.

## Last but not least: Redesign of the ZIMO website

... in progress

Screenshot of the homepage of an preview of the new website



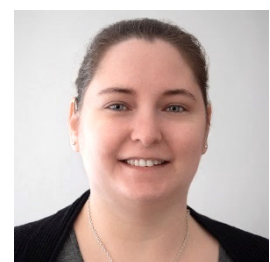
New in the ZIMO team



Christian Natter  
Software development



Jonas Gahlert  
Software development



Johanna Schneidhofer  
Apprentice