Newsletter September 2021

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The new MX33 cab,
in the home stretch

MX33 CAD-Zeichnung

The software for the successor to the MX32 cab has reached the final layer, i.e. the application level is now ported from MX32 to MX33.

The initial goal is to establish the full functionality of the MX32 in the MX33, with optimizations in certain areas (e.g. better speedometer display or increasing the size of the image database and new search tools).

Of course, some of the advantages of the MX33 come into play right from the start, such as a larger display (i.e. easier-to-read text), the new east-west button, etc.

The MX33's larger processor and memory capacity (32 GB internal flash card instead of 4 GB) is currently only used to about 25%; the rest is available for numerous future projects. Transitioning from the MX32 to the MX33 is a similar process as that from the MX decoders to the MS generation (albeit with more of the existing software being taken over) - at the beginning it is functionally very similar to the MX32, but with enormous expansion possibilities.

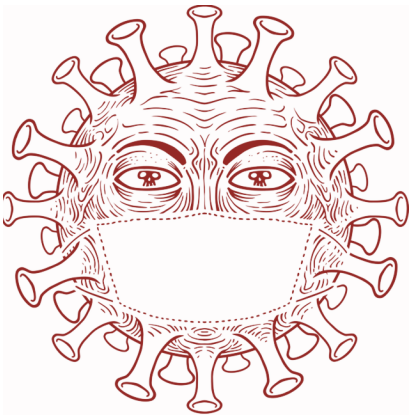
An important but difficult step in the ability to deliver the MX33 soon, is the procurement of displays despite the general "chip crisis". The delivery time for the already ordered parts was set for more than a year. Now a replacement has been found that is even brighter with more contrast than the originally intended display.

Above is a photo of a typical LOCO display (without a loco picture, because the loco database has not yet been implemented); the color and brightness values have yet to be adjusted, as can be seen from the much too bright and dull speed control bar, but otherwise the quality is already quite good.

Now that the decision for a certain display type is made we can finish the housing construction and the "glass part", which will form the head of the device with the display and capacitive touch foil.

The keyboard and thus the operation largely corresponds to the MX32, but based on experience there are substantial improvements: two stop buttons (since there are several stop modes), east-west button, three-colored LEDs (i.e. full spectrum colors of the LEDs in the buttons), replacement of the previous (not entirely successful ..) scroll / rocker combination with a new (mechanically better ..) encoder and button.

The new MX33 cabs have a capacitive touch screen (The MX32 "only" had a resistive one); this enables the swipe and multi-touch functions known from smartphones, tablets etc.



Free picture from Gordon Johnson at Pixabay

We didn't really expect that we had to write another newsletter with the known virus icon on page 1 at this point in time...

But at least, **model railway exhibitions** are now taking place again: Leipzig, Friedrichshafen, Dortmund (alternative date) - Vienna and Bauma, however, have been cancelled.

ZIMO already took part in the modell-hobby-spiel in Leipzig and because of the not so bad visitor numbers there, will also take part in Friedrichshafen and Dortmund. Also there, about 2/3 of the usual number of visitors is expected - which at least accommodates the reduced exhibition space.

As is well known, there are global economic problems (caused by Corona) with regards to supply chains. The often quoted **"chip crisis"** does not only affect the auto industry but the model railroad industry as well. Thanks to keeping a generous stock, ZIMO was nonetheless able to continuously increase the production volume of decoders well into the summer; In August and September, however, there was a slump due to missing (i.e. confirmed, but not delivered) parts ... at the moment it looks as if the backlog could largely be caught up in the last quarter of 2021.

A short break has "crept in" at the **ZIMO zoom workshops**; and the continuation in autumn was stopped by an internet failure in Vienna (but made up for). The next workshop is scheduled for 15 October (topic: "MXULF & ZCS"); further workshops will follow.

Brief note:
For some time now, wired miniature decoders have been supplied WITHOUT SHRINK TUBE. In the opinion of many users, the space saving outweighs the potential time and/or expense of taking precautionary measures.

Latest ZIMO development

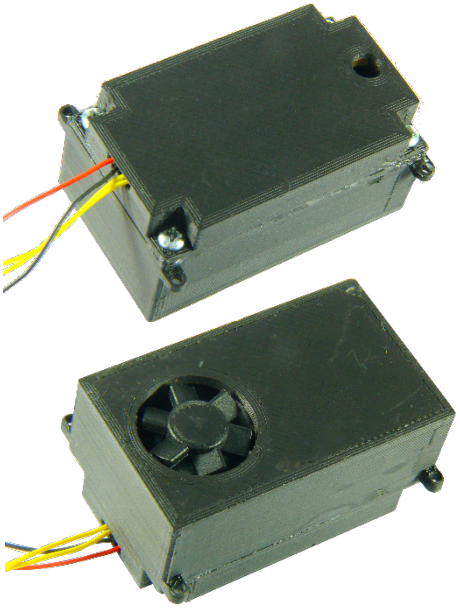
Large-scale smoke generator

Large scale decoders from ZIMO have always been very efficient in controlling pulsed smoke generators - and in a particularly cost-effective way, as no electronics are required outside the decoder: there are direct connections available for 2 heating elements and fan motors (for the ***MX699, MS990***, and also the *0-scale decoder* ***MS950***).

Since decoders from other manufacturers are not designed for direct control of heating elements and fans, only a few inexpensive smoke generators can be found on the market.

That's why ZIMO decided to enter the smoke generator market:

The basic development was carried out together with a 0-gauge loco manufacturer. So the first product has dimensions that are particularly suited for 0-gauge.



Prototype of the smoke generator from above (with steam outlet) and from below (with fan)

Dimensions of the first version: 49 x 29 (36 with tabs) x 23 mm

It is planned to offer a range of smoke generators that differ only in the housing dimensions (and therefore by the capacity for the evaporation agent).

Of course, double smoke generators with two heating elements and two fans in the same housing are also planned, as is particularly needed for cylinder steam release, but possibly also for mallet locomotives or twin-engine diesel locomotives.

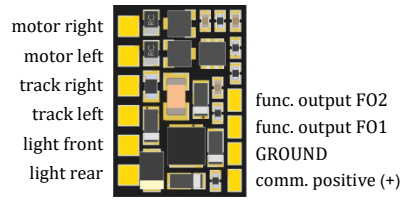
Subminiature-Decoder MX615

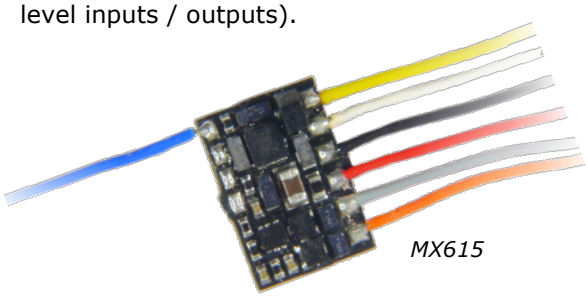
8.2 x 5.7 x 2 mm - suitable for Z-scale (and for N…)

So far, the decoders of the MX616 series were the absolutely smallest ZIMO decoders available (8 x 8 x 2.4 mm). With the addition of the new assembly and soldering machines for the in-house electronics production, which were put into operation at ZIMO in 2020, the miniaturization could now be taken one step further (component sizes down to 01005 - 0.4 mm long). The result is the new **MX615 series** with **8.2 x 5.7 x 2 mm** - suitable for many Z vehicles, but also for N or TT applications where lack of space is an issue.

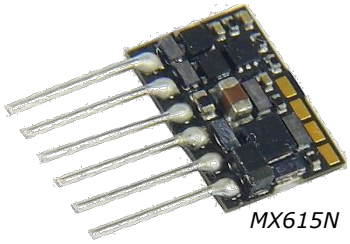
The decoder is optionally available as a NEM651 version **MX615N** with 6 directly attached pins (without a pin header, which keeps the dimensions of the decoder to the board area) or as a wired **MX615**, if necessary also as NEM652 on wires (**MX615R**) or NEM651 on wires (**MX615F**).

In addition to the obligatory headlamp outputs, the subminiature decoder has two additional function outputs (FA1 and FA2), and all the features of the "larger" ZIMO decoders (RailCom, HLU, ABC). But in contrast to the "larger" ones, there is no SUSI interface and no functions that are otherwise optionally available on the SUSI pins (servo outputs, logic level inputs / outputs).





MX615

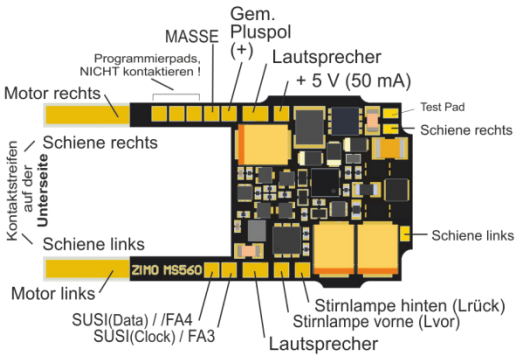


MX615N

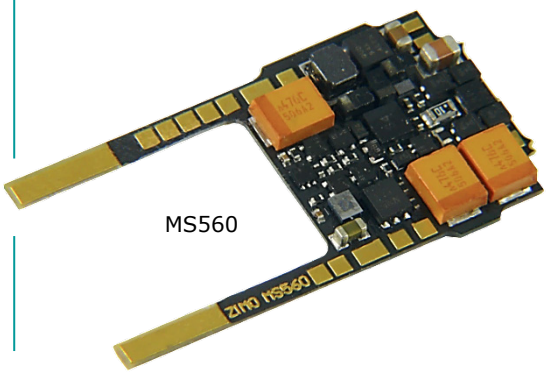
Sound-Decoder MS560 for the KATO-Railcar

16 bit Sound, 128 Mbit Memory, 16 Sound-channels

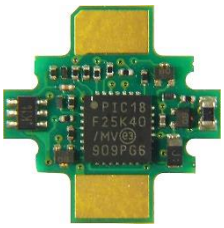
As with all other ZIMO sound decoders, the special sound decoder for KATO railcars (e.g. ICE 4) is now being replaced also. Until now the MX605 (in 8-bit technology) was used in this model, which is now replaced by the MS560 with all the advantages of the MS sound decoder technology. The dimensions of the **MS560** are **27 x 14 x 2.6 mm** (of which, due to the special design of the connections, the actual area is only about half, which is similar to other ZIMO miniature sound decoders).



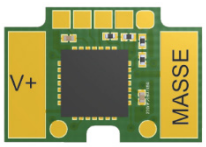
A characteristic of the interface arrangement in the relevant KATO vehicles is that headlamps and interior lights are not connected to the main decoder (i.e. the MS560 or earlier on the MX605), but that separate function decoders are used for this. The MX605FL and MX605SL types are available for this, which have already been used together with the 8-bit MX605 sound decoder.



MS560



MX605SL



MX605FL

MX10 & MX32 Update Version 01.29.0400

Above all, the **receiver algorithm** of the **RailCom messages** was redesigned, with the main focus on the reception of heavily distorted and attenuated signals. This is important in various situations, for example if the wiring or track length between the decoder (with RailCom transmitter) and the detector in the MX10 is unusually long, as is often the case with garden railways.

The StEin modules (as well as the MX8, MX9 and Roco modules) can NO LONGER be reached when the MX32 is operated in **radio mode** (likely just a temporary measure), so that the communication of other important data is not disrupted. Turnout operation (with DCC accessory decoders) is now possible again in radio mode (was inadvertently blocked in some intermediate SW versions).

Furthermore, various **bug fixes** for the Roco-WLAN-Maus, regarding the synchronization with ZCS as well as preparations for future ZCS functions are included.

Software-Version 40.7 for MX-Decoders

The software versions of the MX decoders are no longer about major innovations (they take place in the MS series ...), but about corrections, improvements and additions: in the course of 2021 these are mainly:

Additions to the script language, simultaneous MAN functionality using the MAN key or an F key, the latter can be defined as a MAN replacement key in CV #157, improved ABC recognition and the ABC shuttle mode, restoration of the "uncoupler" effect for the function outputs FA1, FA2 (MX600, MX623, MX630), corrections in the area of the second address of function decoders.

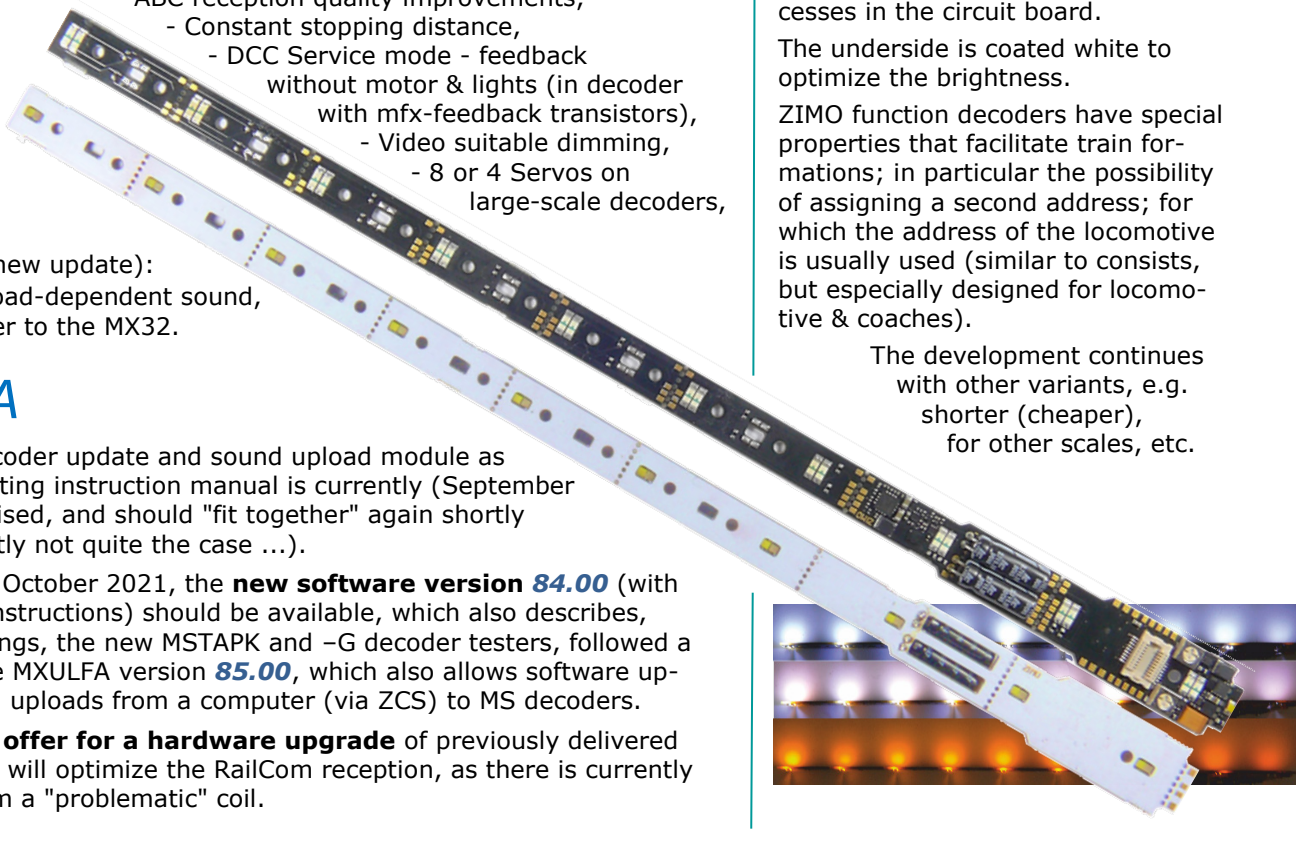
Software-Version 4.115 for MS-Decoders

The software of the MS sound decoders is constantly being worked on, as this decoders represents the current (only recently launched) ZIMO decoder generation. It was originally announced that all the features of the MX-Sound-Decoders would first be realized in the MS and then released as version 5.00 after a version sequence 4.97, 4.98, 4.99. It has since been proven to be useful to first add the MS-specific features (e.g. for large-scale decoders) before the last "MX feature" is finished, the version sequence has therefore been changed to 4.100, 4. 101 ... and continues now with 4.115.

The most important characteristics added in 2021
(For details go to www.zimo.at Update & Sound, Update – MS-Decoder):

- ABC reception quality improvements,
- Constant stopping distance,
- DCC Service mode - feedback without motor & lights (in decoder with mfx-feedback transistors),
- Video suitable dimming,
- 8 or 4 Servos on large-scale decoders,

coming soon (new update):
- Test run and load-dependent sound,
- GUI file transfer to the MX32.



MXULFA

The MXULFA decoder update and sound upload module as well as its operating instruction manual is currently (September 2021) being revised, and should "fit together" again shortly (which is currently not quite the case ...).

In the course of October 2021, the **new software version *84.00*** (with new operating instructions) should be available, which also describes, among other things, the new MSTAPK and –G decoder testers, followed a little later by the MXULFA version ***85.00***, which also allows software updates and sound uploads from a computer (via ZCS) to MS decoders.

There will be an **offer for a hardware upgrade** of previously delivered MXULFAs, which will optimize the RailCom reception, as there is currently interference from a "problematic" coil.

Latest ZIMO developments

Lighting kits

The first ZIMO lighting kits were developed and built in 2019 as a manufacturer's order for 0 gauge "Silberlinge" coaches.

Due to urgent other projects (MS decoder ...) no light boards have been offered as general purpose products so far.

This is about to change...the first prototype of the new series of lighting kits was produced for N and TT coaches.

This - as yet nameless - product is a high-quality (i.e. not quite cheap ...) version with the following properties:

208 mm total length with perforations every 22 mm, for shortening if necessary.

Next18 interface for function decoders such as the MX688N18 or sound decoders such as the MS590N18; in principle for all Next18 decoders.

Integrated "StayAlive-Controller" (like the STACO1) and two mini-gold-caps (0.3 F / 2.7 V / 12 x 4 mm, each) for a running time of several seconds.

10 light units for interior lighting, each consisting of cold white and yellow LEDs, electrically combined in 4 separately switchable groups. Miniature adjuster for hue settings.

Connections for external lights of pilot cars (white/red).

The design is kept as flat as possible, through one-sided assembly and the use of LEDs that shine through recesses in the circuit board.

The underside is coated white to optimize the brightness.

ZIMO function decoders have special properties that facilitate train formations; in particular the possibility of assigning a second address; for which the address of the locomotive is usually used (similar to consists, but especially designed for locomotive & coaches).

The development continues with other variants, e.g. shorter (cheaper), for other scales, etc.

Software-Version 7.2.00 for „StEin's“

The entire "StEin" complex is a subsystem within the ZIMO system, the scope of which - especially considering future expansion stages – exceeds that of many other DCC systems in totality.

With the update ***version 7.2.00*** (available probably in October 2021), many problems in the area of "multi-module updates" will be fixed and correspond to the operating instructions; numerous other bug fixes, and the introduction of the supplementary ready-made configuration "62".

The development continues; the following is a short to medium-term perspective for the "StEin":

Important ***future*** steps for handling:

- Output of the "active configuration" on to a USB stick in order to check the loading and activation processes (of configuration files .cfg and ready-made configurations); In other words: to look up which configuration file is installed and active.
- Commissioning of the new expansion boards for servo drives.
- Converting Excel table exports (and import of pages from the StEin) to XML files in order to avoid column errors that cause "inexplicable" faulty reactions, and to enable plausibility checks before read-outs.

Important ***future*** steps for functional extensions:

- Additional object classes: i.e. KONFBIB, ADDFERT (already described in the operating manual), Three-way turnouts, uncoupler. Completions of existing object classes.
- More ready-made configurations, in particular for signal systems from various countries and railway companies (currently only the German HV system is considered).
- Enabling the writing and reading of parameters such as overcurrent thresholds and switching times by dispatching programs and other programs (primarily planned for ZCS).
- Complete implementation of the "sequential input commands".
- Macro objects, i.e. object classes that use other ("subordinate") elements, for example routes (several turnouts and positions combined), up to blocks and automated hidden yards.

Closely linked with the StEin module is of course the dispatcher program ***ESTWGJ***, for which version 8.0 will appear at about the same time.

Further expansion of the

ZIMO premises

In order to cope with the increasing production and delivery quantities, part of the second floor of the ZIMO building is currently being converted and prepared for ZIMO staff to move in.

Some important departments of the ZIMO ELEKTRONIK GmbH are to start their work here still this year (2021); a total of approx. 10 workplaces: the sales department including shipping as well as parts of the production department, namely decoder finishing and testing as well as production repairs.

(Customer repairs however remain on the 3rd floor)

New ZIMO employees *(since the March newsletter 2021)*

Sandra Kögl

Sales & Distribution Administration

Branislav Bradle

Warehouse, Packaging & Shipping

Christine Jerkovic

Sales & Distribution Documentation

Oleg Andries

Customer repairs, development

Oliver Simonitsch

Production: Final Assembly, Circuit Board Testing

Tiffany Herzmansky

Production: Manual Soldering, Decoder Testing

Kaen Hofbauer

Production: SMD assembly, optical inspection

Amir Elsaldi

Production: SMD assembly, optical inspection