



Newsletter - JAN/FEB 2009

ANMELDUNG zum ZIMO Newsletter per Email: auf www.zimo.at !
Registration for the ZIMO newsletter: www.zimo.at

ZIMO ELEKTRONIK,
Schönbrunner Straße 188, A - 1120 Wien

A New Era for Model Railway Digital Control

The actual technology – microprocessors, memory, displays, power electronics – opens up new possibilities for model railway control and with a trend towards ever decreasing costs. There is no reason not to implement more functionality, to be content with unstable power supply at the rails, and no reason to use outdated screens with only a few lines, each 16 characters, etc.

ZIMO has offered, for many year, high-end solutions to digital control: but the current product generation has been developed to the end of available potential, thus the new CAB (hand-held controller), the MX32 (successor of the MX31):

New 32 bit microprocessor, with several MB of main memory and GB of flash memory, the latest display technology (OLED-color screen, 320 by 240 pixels, with touch-screen functionality).

ZIMO does not follow the current fashion for an all-in-one device (with a central display screen plus control knobs on the left and right), but ZIMO is following its own proven system architecture, with a powerful base unit plus easy-to-use hand-held controllers.

The system centre is the base unit (currently the MX1, in the future MX10 or MX100) are powerful electrically and in the organization of data; the control devices are not only handy but are optimized as user interfaces, in this case as "user-railway-interface".

A change takes place, but not all the advantages of the previous generation are thrown away, therefore the shape of the housing, the slider speed control and the arrangement of the keys as well as basic control philosophy stays the same as in past products.

The creation of efficient products can only take place with an efficient development team. ZIMO work primarily with internal co-workers, as outsourcing to external service providers shows that they often lack experience of the model railway world. For the initiation of the "New Era", the following, partly ZIMO-proven, some new heads are responsible (one or two more will in due course supplement this team).

Oswald Holub (see below) has lead the software development team for many years, and is responsible for the development of the software for the current decoders and the sound decoders, as well as the associated ZSP software. He is a well-know expert and has helped many customers with their product and software compatibility problems.



Mike F. Schwarzer has recently been pulled into the ZIMO team, after working a a group leader and software expert in many different business sectors. His knowledge and skills in the model railway world come from hobby related work on building his own control equipment. Now he is employed by ZIMO to work on the development of the new ZIMO generation (MX10, MX32 etc.).



Volodymyr Sergienko has worked since the beginning of 2008 in the field of software for base stations, accessory decoders, and RailCom software., along with PCB development. During the development of the new generations, he takes over the enhancement and maintenance of software for existing equipment (MX1, MX31, MX9 etc.).



Viktor Obrist (unlike the others, a part-time employee while finishing his university studies university) works on ZIRC (ZIMO Rail Centre).



Viktor Franković, although mainly for service and repair responsibility, makes decoder designs for the boards and developed power electronic hardware.



Due to the development of the new product line, the next **ZIMO Product Catalogue** while be published in the 2nd half of 2009

Cooperation with external partners continues to expand the capacity of ZIMO :- Ewald Sperrer (STP), Heinz Grandjean (ESTWGJ), John Russell (Sound Database), Heinz Däppen (RhB Sound etc.), Arnold Hübsch (ZST, Adapter, etc.), Oliver Zoffi (Sound Projects), Heinrich Schild (Sound Recordings), and more cooperation is planned (especially in the field of sound).

Bild: MX32 Anzeige-Entwicklungsversion im FAHR - Zustand am Versuchsaufbau MX32



The new ZIMO Production Facility

In Vienna, Schönbrunner Road 188, at the headquarters of Zimo since its launch in 1980, new additional rooms (approx. 150 m2) are being adapted in April 2009, for the operation of the new production facility. The core investment refers to an SMD assembly machine with very high capacity (up to 20,000 components per hour, about five times the currently existing device), the current and future requirements - precision and miniaturization – will be achieved. In addition to the new manufacturing jobs, there will be spacious rooms for 4-5 staff and a seminar room space.



Photo courtesy of MYDATA automation AB. Photograph Magnus Elgqvist

ZIMO production is technically self-sufficient again, a proportion of outsourced production (since 2004, SMD placement of Decoder boards) can be returned. This runs against the current fashion (which promotes outsourcing), but we expect this measure to give a higher flexibility in terms of product design and delivery capability, because short-term changes and the production of special versions can be done cost-effectively, which outsourced production cannot achieve

The superb ZIMO production team remains unchanged and will probably require expansion :-

Jörg Leuschke

Richard Medina

Sophie Simon

Thomas Mader



The new Era of the ZIMO CAB (hand-held controller)

The MX32 uses the proven outer form of the MX31, with the slider speed control and double connector to the CAN bus, which is a “trademark” of ZIMO for about 25 years. The MX 32 is different from its predecessor with a 2.4 inch OLED colour screen (especially good technology) and high resolution 320 x 240 pixel touch screen. (see picture on the right, the future design mock-up)

Depending on the operational mode the display screen of the controller changes:

In the picture on page 1 of this newsletter is the typical Driving mode, you can see, in the upper part of the display (below the status bar) to the left or alternatively Name, Photo of the vehicle, along with DCC or MM address; right with tachometer automatically varying scales (eg 0 - 30 km / h or 0 - 100 km / h or 0 - 160 km / h, etc.) with real values supplied by the Railcom feedback on speed, or alternatively (if the decoder is not RailCom capable) the speed is calculated, left an ammeter for the traction current, also from RailCom messages instead fuel supply, coal and water supply, etc. can be shown. The lower part is the description of the function keys, with appropriate symbols or animated graphics.

Railcom plays in the modern model railway control systems a crucial role, so even when MX32 controller: as well as the above-mentioned functions, assists in the setting of the decoder, when selecting the right sound samples, etc. where no longer just simple CV values are reported, but also text information, such as on operating conditions, on the nature of the loaded sounds, etc.



RailCom is a trademark of Lenz GmbH.

Product Replacement: The new Decoder Family MX630

Some users have already learnt that the popular MX64 has been discontinued, and replaced by the smaller MX63, which has the same functionality.

The MX63 (and the MX63R or MX63F) will be able until further notice at the same significantly lower price as the MX64!

Approx. in May 2009, the production of the new MX630 family starts, which will replace both MX63, and MX64, also MX64H and MX64V. The dimensions of the MX630 are practically the same (one lane smaller) as that of the MX63, the resilience is much higher.

Technically, the MX630 in October 2008 was released as the "first PluX decoder" MX64P, but due to the lack of matching locomotives so far with PluX sockets, it has not yet gone into production. This PluX decoder will therefore be "renamed"; and no longer be MX64P but MX630P.

Throughout this transition, all ZIMO locomotive decoders will be the similar or identical: the families MX620, MX630, MX64D software are identical (i.e. same control characteristics, the same CV's ... unfortunately, with the same software errors, (but then again will also be corrected at the same time), the MX640 sound decoder family are also identical, as far as driving function and the logic is concerned. The larger train decoder MX69 and MX690 are almost identical.

Here is the overview of the new ZIMO locomotive decoders and the main data:

MX620	13,5 x 8,8 x 2,5 mm	0.8 A	4 function outputs	7 wires
MX620N	"			6-pin socket direct (NEM 651)
MX620R	"			8-pin socket with wires (NEM 652)
MX620F	"			6-pin socket with wires (NEM 651)
MX630 NEU	20 x 11 x 4 mm	1.2 A	6 function outputs	9 wires
MX630R NEU	"			8-pin socket with wires (NEM 652)
MX630F NEU	"			8-pin socket with wires (NEM 652)
MX630P NEU	"			16-pin PluX-socket NMRA Standard)
MX630H NEU	20 x 11 x ? mm	1.8 A	High performance!	
MX630V NEU	25 x 11 x 4 mm	1.2 A	with adjustable low voltage function	9 wires
MX64D	20,5 x 15,5 x 4,5 mm	1.2 A	6 function outputs	21-pin socket direct
MX64DM	"		special version for C-Sinus Motor	"
MX64DV1	25 x 15,5 x 4,5 mm		with 1,2 V Low voltage for functions	9 wires
MX64DV5	"		with 5 V Low voltage for functions	9 wires
MX640 SOUND	32 x 16 x 5 mm	1.2 A	6 function outputs	11 wires
MX640R SOUND	"			8-pin socket with wires (NEM 652)
MX640F SOUND	"			8-pin socket with wires t (NEM 652)
MX640D SOUND	"			21-pin socket direct
MX640C SOUND	"			- " -, special version for C-Sinus Motor
MX69L	55 x 29 x 10 mm	2 A	8 function outputs	
MX69S	55 x 29 x 18 mm	3 A	8 function outputs	
MX69V	"	5 A	14 functions outputs with adjustable voltage	
MX690S SOUND	55 x 29 x 18 mm	3 A	8 function outputs	
MX690V SOUND	"	5 A	14 functions outputs with adjustable voltage	

Also 12 special MX690 versions for large scale models with enhancement boards

Picture of new MX630P (PluX version, previously known as the MX64P) :-

The common features of ZIMO decoders include current and temperature overload protection, additional functions to the actual outputs, depending on the type, from 2 to 5 logical or LED outputs, in addition, depending on the type, from 2 to 4 servo board connectors (programmable end positions etc.), for all DC motors, bell armature motors, ZIMO controls the latest motors with ZIMO acceleration settings ("in accordance with standards", according to NMRA additions for "adaptive" and "exponential", ...), shunting functions (half-speed, reduction or shutdown start/stop time), time-limited coupling control, with coupling walz (automatic press and away), full NMRA function mapping, ZIMO extension to function mapping, American and other special lighting effects, SUSI interface on soldering pads, with SUSI socket or PluX socket, DC braking, ZIMO HLU braking, ABC, "Märklin", ZIMO train number identification, km/h control system as alternative, constant distance braking in two versions.



RailCom: km/h feedback, CV "on-the-main" read, many other RailCom applications

Updatable Decoders – Load new software versions without opening the loco, as with all ZIMO decoders. Update using the MXDECUP update device, or the MX31ZL controller; from PC using the Decoder software update program, or (very conveniently), using the MX31ZL direct from a USB stick.

Sound by ZIMO

The requirements for sound decoder and sound projects are not only growing, but becoming increasingly diverse. Some users create value mainly with simple preparation and operation, some on a really authentic sound experience, while others turn more to the spectacular effect.

ZIMO tries to satisfy these wishes with a unifying concept. This concept is not rigid but must always return to the realities and possibilities to be adjusted.

Core of the concept are, of course, the ZIMO sound decoders MX640, MX690, and MX690 with the enhancement board :-



The ZIMO Sound Database (see below) has not yet hundreds of entries (like the competition) but they grow, with more emphasis on quality than on the speed of growth is considered.

The really "good tone" is not only by ZIMO developed, external resources will also be used. The ZIMO partners are involved in the real train are close in geographical professional or hobby-terms. We highlight in this respect Heinz Däppen, a Swiss Railway modeller who is familiar with the sounds of the Rhaetian Railway (RhB), and also with American railroads whose Incentive for sound creation is genuineness and authenticity. The individual sounds will merge together into a whole experience, which the best the modeled aims for. For ZIMO decoder, there are already available, the Electric Loco Ge 4 / 4 I, Ge 4 / 4 II, Ge 4 / 4 III, and the Steam Heidi G $\frac{3}{4}$.

A ZIMO and partner (in this case Mr. Schild) Project is the "Red Brummer" VT98, in the form of a conversion kit for the PIKO VT98/5081 railcar. In the simplest kits (several variants available), no soldering is required! The kit contains the ZIMO large scale sound decoder MX690S loaded with a sound project, the FRS5 speaker, lighting boards, connection leads.

A specialty of the sound project is the automatic interruption of accelerator during the gear change operation. There are also sound variants to be selected (gear change sounds, era dependent, door closing warnings).



Sound Database, Sound Projects, Sound Collections:

ZIMO sound projects are available in two versions for download from the ZIMO database (Sound Database) ready. . .

1). . . as "Ready-to-Use" - Project: This is a .zpp file, which, after the download from the database, can be loaded into the decoder by ZSP (later ZIRC) using MXDECUP or MX31ZL (via ZSP or USB stick). All assignments, parameters, and CV values in the project are loaded unchanged.

Many assignments and settings for "Ready-to-Use" projects can also be adjusted in the decoder by changing the CVs as described in the instructions and procedures.

2). . . as a "Full-Featured - Project: Thus is a .zip file downloaded, which is not directly loaded into the decoder, but from ZSP (the ZIMO Sound Program ") is unpacked and can be processed. Within ZSP assignments and settings can be set in a comfortable way, sound samples can also be taken from the external processing and their own sound projects from the existing sound samples can be established, etc.

After processing, the sound project can be loaded by MXDECUP or MX31ZL into the sound decoder. The decoder itself can be customized in the decoder by setting the CVs using the operating instructions, and these new values can be re-saved as new values by ZSP.

There are:-

- **ZIMO's own (free) sound projects.** . . These are created for or on behalf of ZIMO and are in the database for free download. The range is being gradually expanded. Upon request, each of these projects can be loaded for a small "loading fee" (in the range: PROJ-LAD) in new decoders; otherwise, the "European Steam Collection" is loaded by default. The Sound Collection is a special form of Sound Project, with sound samples for a variety of vehicles, For example, a collection of several European steam locomotives. With a CV setting (ZIMO advantage) which actual sound to be played can be selected.

- **External (extra charge) projects.** . . however, some projects come from partners who have used their knowledge and experience. The cost of creating and maintaining such projects are not covered by the decoder price. Such projects may be loaded from the database, but they are only available for a suitable coded ZIMO decoder. Coded, i.e. with a suitable "Loading code", which can be either purchased already loaded from ZIMO (with a surcharge) or through direct purchase and entering of the Loading code onto an existing decoder.

- **Dealer's sound projects.** . . Created for their own customers. These sound projects can not be downloaded, but only purchased already loaded on the corresponding ZIMO decoder direct from the dealer.